



# **PJM Response to the 2025 State of the Market Report**

**August 2026**

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## Contents

|                                                                                |          |
|--------------------------------------------------------------------------------|----------|
| <b>Introduction .....</b>                                                      | <b>1</b> |
| <b>Responses to Selected Recommendations From the 2025 SOM Report.....</b>     | <b>3</b> |
| <i>Minimum Offer Price Rule.....</i>                                           | <i>3</i> |
| <i>Requirements for Capacity Must-Offer Exceptions for External Sales.....</i> | <i>4</i> |
| <i>Requirements for New Large Loads.....</i>                                   | <i>6</i> |
| <i>Reserve Quantity Calculations.....</i>                                      | <i>7</i> |
| <i>Primary Frequency Response Event Performance Evaluation.....</i>            | <i>8</i> |

## Introduction

The 2025 State of the Market Report arrives at a moment when PJM and its Independent Market Monitor (IMM) are, to an unusual degree, looking at the same problem. Monitoring Analytics has produced another thorough and data-rich assessment of the PJM markets, and PJM commends it to stakeholders as a reference on energy, capacity and ancillary services market outcomes in 2025.<sup>1</sup> This year, however, the report's most pointed conclusions – the warning signs in the capacity market, the strain on reserve margins and the pressures created by rapid large load growth – speak directly to the questions PJM has placed at the center of its own work for 2026.

Those questions are structural rather than incremental. The market design that served the region well through two decades of relative stability was calibrated to conditions that no longer hold: modest and predictable load growth, a fuel transition that could be paced over years, and generation that could be built on roughly the horizon of the capacity market's forward signal. Today the region faces surging demand led by data centers, accelerating retirements of dispatchable generation, and supply chain and permitting constraints that have sharply lengthened the time to build new resources. The cumulative effect is a system moving from managing surplus to managing scarcity, a shift that the 2025 State of the Market (SOM) documents in concrete terms.<sup>2</sup>

PJM does not dispute the seriousness of these outcomes, and, in important respects, its diagnosis aligns with that of the IMM. Where the two may differ is on remedy and emphasis. PJM's view, developed at length elsewhere, is that high capacity prices are in significant part the market correctly signaling scarcity, and that the deeper difficulty lies in whether that signal is durable enough to attract the investment it is meant to call forth.

For that reason, in January 2026, the PJM Board directed staff to undertake a holistic review of the capacity market design and investment incentives, recognizing that the foundational assumptions underlying the Reliability Pricing Model warrant reexamination in a resource-constrained world. PJM's response is the Powering Reliability Through Market Design white paper published in May 2026, which diagnoses why this transition is harder than the last, frames the foundational choices the region can no longer defer and offers several illustrative paths forward without prescribing one.<sup>3</sup> Those choices about how reliability risk is shared, who bears the cost of insulating consumers from volatility and which instruments best support long-term investment are intentionally left open for regional deliberation. PJM has convened a stakeholder workshop series to work through the paper and define next steps.<sup>4</sup>

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<sup>1</sup> Monitoring Analytics, LLC, [State of the Market Report for PJM – 2025](#) (PDF), March 12, 2026 (Hereafter “2025 SOM”)

<sup>2</sup> PJM Interconnection, [Powering Reliability Through Market Design](#) (PDF), May 6, 2026 (Executive Summary; Chapter I)

<sup>3</sup> PJM Board of Managers, [Board Decisional Letter on Critical Issue Fast Path - Large Load Additions](#) (PDF), January 16, 2026; PJM Interconnection, [Powering Reliability Through Market Design](#) (PDF), May 6, 2026

<sup>4</sup> PJM Interconnection, [Powering Reliability Through Market Design Workshops](#)

It is against this backdrop that PJM has chosen to structure its response to the 2025 SOM differently than in prior years. The IMM advanced 15 new recommendations for 2025, five of them reported for the first time in this annual report.<sup>5</sup> Many of these recommendations engage questions of market design that PJM is now reexamining at a more fundamental level, and in some cases questioning the architecture that a given recommendation presupposes. Responding to each recommendation in isolation, as though the surrounding market design were settled, would understate the scope of the review now underway and risk prejudging choices that properly belong to the broader process. PJM therefore does not attempt a recommendation-by-recommendation response this year. Instead, PJM responds to a focused set of recommendations selected against three criteria: those that bear most directly on the structural resource adequacy challenges the region faces today; those that can be advanced now, on their own merits, regardless of which long-term path the region ultimately chooses; and those where the IMM analysis most usefully informs the deliberation already in motion. Judged against those criteria, five recommendations rise to the top.

These five fall into two groups that mirror the structure of PJM's own review. The first concerns resource adequacy and entry into the capacity market: most notably, the recommendation that large data centers bring their own generation, matched to their load profile, through an expedited interconnection pathway. PJM takes this seriously: It engages the same dynamic the white paper examines, in which large new load arriving faster than supply can be built leans on shared reserves sized under different assumptions, and it overlaps materially with concepts the region is now weighing. PJM and the IMM diagnose that dynamic similarly even where they differ on mechanism, and that common ground is worth noting. The second group concerns the energy and ancillary services markets, which PJM regards as necessary improvements under any path independent of the larger architectural question. PJM's responses to these five, specific recommendations follow.

Beyond the recommendations themselves, the SOM's broader analysis – of capacity market outcomes, of the cost impacts attributable to large load growth and of energy market price formation – remains a helpful input to the work ahead. PJM looks forward to continuing its engagement with Monitoring Analytics, its members and other stakeholders. PJM remains committed to a transparent process that aligns the economic signals of its markets with the reliability requirements of a 21<sup>st</sup> century grid, and that is durable enough to attract the investment the region needs.

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<sup>5</sup> 2025 SOM, Vol. 1, New Recommendations

## Responses to Selected Recommendations From the 2025 SOM Report

### Minimum Offer Price Rule

*The only function the current MOPR is serving now is to create unnecessary administrative work in the application and compliance screening and to create barriers to entry for generation resources. Absent a meaningful change to MOPR, the MMU recommends eliminating the MOPR.*

#### PJM Response

The Minimum Offer Price Rule (MOPR) was created to address a specific and well-recognized market failure: the susceptibility of a centralized, administratively cleared capacity market to buyer-side market power. Because load is, in aggregate, a net buyer of capacity, a buyer or a state acting on its behalf can have an incentive to bring new capacity to market at an offer below its competitive cost – typically by subsidizing a resource that would not be economic on its own – so as to suppress the clearing price across the entire procurement. The savings on the buyer's total capacity purchases can exceed the cost of the subsidy, making the strategy profitable even though it depends on uneconomic entry. The MOPR was designed to guard against precisely this dynamic by ensuring that resources benefiting from out-of-market support offer at a price floor reflecting their competitive cost, so that the auction continues to clear on the basis of genuine supply and demand rather than being susceptible to price suppression from uneconomic new entry that was pursued specifically for the purpose of impacting (reducing) the market price.

Over successive revisions – most significantly the rules in place for the 2023/2024 and subsequent delivery years – the MOPR was substantially narrowed to focus on resources receiving Conditioned State Support or otherwise positioned to exercise Buyer-Side Market Power, with eligibility largely established through self-certification.<sup>6</sup> The IMM is correct that this is a far-lighter construct than earlier versions of the rule, and PJM agrees that, in its current form, the MOPR rarely produces a binding offer floor. PJM also takes seriously the specific administrative frictions the IMM identifies – including the consequences for a resource that misses a certification deadline, which can be required to offer at the Net Cost of New Entry (Net CONE) or, where no default floor for its technology is defined, be unable to offer at all. Those are legitimate concerns about implementation, and they are worth addressing.

PJM's hesitation is with the conclusion the IMM draws from them. That the rule rarely binds today is, in part, a function of present conditions rather than evidence that the underlying risk has disappeared. When the market is short and clearing at the price cap, new entry is not expected to lower the immediate clearing price, and the incentive to subsidize uneconomic entry for price-suppressive purposes is correspondingly weak. But that incentive is forward-looking as well as contemporaneous. A buyer or state evaluating whether to support otherwise-uneconomic new capacity may do so in the expectation that the resulting additions will suppress clearing prices in future delivery years, once the current shortage eases. The MOPR's purpose is to mitigate that incentive across the full horizon over

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<sup>6</sup> The revised MOPR became effective for RPM Auctions for the 2023/2024 and subsequent delivery years. PJM Interconnection, L.L.C., Notice of Filing Taking Effect by Operation of Law, Docket No. ER21-2582-000 (Sept. 29, 2021). For earlier iterations of the PJM MOPR, see also 169 FERC ¶ 61,239 (2019), order denying reh'g, 171 FERC ¶ 61,035 (2020).

which capacity investment and procurement decisions are made, not only in the years in which the market happens to be tight.

Viewed this way, the certification process is best understood as a relatively low-cost, low-complexity safeguard against the exercise of load-side market power – the mirror image of the seller-side market power that the IMM rightly and vigilantly polices elsewhere in these markets. Removing the construct entirely would leave that side of the ledger unaddressed, reintroducing an asymmetry between how PJM's market design treats supplier conduct and how it treats buyer conduct. PJM does not believe that the administrative burden the IMM describes justifies discarding the protection altogether, particularly when the more proportionate response is to refine the process that generates that burden.

Accordingly, PJM does not adopt the recommendation to eliminate the MOPR, but it welcomes the underlying critique. PJM is open to working with the IMM and other stakeholders on targeted improvements to the certification and screening process – for example, the treatment of missed certification deadlines, cure provisions and the specification of default floors by technology – that would reduce unnecessary administrative work and lower barriers to entry while preserving the rule's core function. PJM's preference is to improve the mechanism rather than to remove it, and it invites specific proposals to that end.

### **Requirements for Capacity Must-Offer Exceptions for External Sales**

*The MMU recommends that the PJM Tariff be modified to explicitly state that in order to qualify, a Capacity Market Seller requesting a must offer exception based on a financially and physically firm commitment to an external sale of its capacity must provide a confirmed firm transmission reservation, covering the entire path from source to sink, for the full requested ICAP MW of the external sale that covers the entire delivery year, by the tariff defined deadline. The MMU recommends that this language apply to all external sales of Generation Capacity Resources, including those where an external balancing authority does not require this level of transmission service in order to consider a PJM resource as a network resource.*

#### **PJM Response**

The must-offer requirement serves an important purpose: It ensures that the supply on which PJM's reliability planning depends is actually available to serve PJM load, and that resources cannot evade that obligation through a claimed but illusory commitment elsewhere. PJM agrees that the export exception should be available only where a resource has a genuine, firm commitment or opportunity to serve external load, and not as a pretext for sitting idle on the PJM system while declining to offer.<sup>7</sup> To that limited extent, PJM shares the IMM's interest in guarding against abuse. PJM is not persuaded, however, that the broader framing underlying the recommendation is correct, and it has reservations about adopting the specific Tariff change proposed.

The premise that an export commitment is presumptively a vehicle for withholding conflates two distinct things. It is neither uneconomic nor a form of market-power withholding for a resource to plan to export its capacity to another system when expected market or contracted revenues there warrant it. That is ordinary competitive behavior – a

<sup>7</sup> OATT Attachment DD § 6.6(g) (export-based exception to the RPM must-offer requirement). See also OATT Attachment DD § 5.6.6(b) (eligibility to export capacity from PJM).

resource selling where its capability is valued most highly – and the broader market design, like the open-access principles on which it rests, contemplates that resources may do exactly this. Market-power withholding is a different matter: It is the withdrawal of supply for the purpose of raising the price paid on the balance of a seller's portfolio. A resource exporting because it can earn more elsewhere is not engaged in that conduct, and a standard that treats every export commitment as suspect risks discouraging legitimate interregional commerce. The appropriate mechanism for retaining a resource that PJM needs is the price PJM offers for it, not an administrative barrier to its departure. When the capacity market is clearing at the price cap, it is already sending the strongest retention signal the design permits; a resource that nonetheless finds export more remunerative is revealing that its capability is genuinely valued more highly elsewhere.

The market-power concern is also weak in precisely the conditions that have drawn attention to the capacity market. The payoff to uncompetitive single-year withholding – the kind a seller exporting to another market for a delivery year might theoretically pursue – depends on the withholding raising the clearing price on the seller's remaining capacity. When the auction is already clearing at the price cap and is expected to do so regardless of the resource's participation, withholding cannot push the price any higher, and the seller captures no offsetting portfolio benefit while forgoing the revenue on the withheld unit. The incentive for this form of withholding is therefore at its weakest when prices are at their highest. (This is the converse of the buyer-side incentive the MOPR addresses, which is forward looking and can persist across delivery years due to additions of long-lived resources; the seller-side withholding incentive at issue here is a contemporaneous, single-year phenomenon whose payoff is capped when the price is capped.)

PJM also notes that the existing Tariff already requires a Capacity Market Seller to demonstrate a financially and physically firm commitment, and it provides more than one acceptable means of doing so – including identification of the resource on a unit-specific basis as a network resource under the transmission tariff of the external control area. The IMM's recommendation would displace that demonstration in favor of a uniform PJM requirement of confirmed firm transmission service across the entire source-to-sink path, applied even where the external balancing authority does not require that level of service to recognize the resource as a network resource. That is a meaningful intrusion on how neighboring systems define firmness within their own footprints, and it is in tension with the shared interest – one the IMM itself articulates – in not erecting inappropriate barriers to the import or export of capacity. PJM is not convinced that the parallel to its import requirements compels this result: The firmness PJM demands of imports exists so that PJM can physically rely on an external resource during stressed conditions, a direct reliability need, whereas the export exception concerns whether to compel a resource that has committed its output elsewhere to offer into PJM nonetheless.<sup>8</sup> Both warrant a genuine-commitment standard; they do not obviously warrant the identical transmission-reservation standard given the differences in resource adequacy frameworks that are relevant across regions.

For these reasons, PJM does not agree with the recommendation. PJM remains committed to ensuring that the export exception reflects a bona fide commitment and is not used to disguise a resource's continued, uncommitted presence on the PJM system, and it will continue to scrutinize claimed export commitments to that end. If the IMM can identify specific instances in which non-firm or fictitious export commitments have been used to evade the must-offer requirement, PJM would welcome that evidence and would address it through the stakeholder process. Absent such a demonstration, PJM is not persuaded that tightening the rule to the proposed across-the-board standard is

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<sup>8</sup> See Reliability Assurance Agreement Among Load Serving Entities in the PJM Region, Schedules 9 & 10; PJM Manual 18: PJM Capacity Market, §§ 4.2.2, 4.6.4 (Rev. 62, Dec. 17, 2025)

warranted or proportionate, given its cost to legitimate interregional commerce and the limited market-power benefit such withholding could yield under current conditions.

## Requirements for New Large Loads

*The MMU recommends that large data centers be required to bring their own generation with locational and temporal characteristics reasonably matched to their load profile and that this approach include an expedited queue option that would permit both the load and the generation to be added without delays.*

### PJM Response

PJM substantially shares the objective behind this recommendation. The concern that large new loads, arriving faster than supply can be built, lean on shared reserves to which they have not yet contributed is one PJM has placed at the center of its own analysis. The question of whether such loads should bring their own new generation – or otherwise not impose their reliability burden on existing customers – is precisely that which PJM and stakeholders are now working to address.

Critically, the recommendation's subject matter was the focus of a high-priority, Board-initiated stakeholder process that concluded in July 2026. The Connect and Manage Issue Charge was approved in March 2026 and assigned to a new senior task force, with the Board directing implementation by year-end; in May 2026, the Board combined that effort with the Reliability Backstop Procurement CIFP, recognizing that the two are substantively linked, and directed an expedited centralized procurement in September 2026.<sup>9</sup> This process culminated on July 27, 2026 when the Board issued a decisional letter directing PJM management and staff to proceed with a filing at FERC to define a new Interim Resource Adequacy Service for new large loads that do not bring sufficient new capacity to serve their resource adequacy needs.<sup>10</sup> The detailed design questions this recommendation implicates – what qualifies as bring-your-own new capacity; the treatment for matched load and generation; and the triggers, sequencing and allocation of curtailment – were squarely within the scope of that process and of the ultimate filing. As the IMM was an active participant and the IMM proposals were considered in the scope of that CIFP, PJM does not separately consider the recommendation here. The appropriate venue for consideration of next steps is the FERC proceeding now open, and PJM is committed to advancing any changes resulting from a FERC order on the accelerated timeline the Board has set.

PJM offers one observation to inform that work. The recommendation as stated in the SOM – that large data centers "be required" to bring their own generation – is more categorical than the IMM's own proposal in the CIFP. In its June 30 package, the IMM advanced a "limited curtailment alternative" that would permit data centers to connect without bringing their own generation for up to three years, provided they accept curtailability as a condition of service.<sup>11</sup> That is a bring-your-own-generation-or-be-curtailable construct, not a strict requirement to bring generation, and it is more

<sup>9</sup> PJM Interconnection, [Connect and Manage Issue Charge](#) (PDF), March 25, 2026; PJM Board of Managers, [Letter re: Reliability Backstop Procurement / Connect and Manage](#) (PDF), May 19, 2026

<sup>10</sup> PJM Board of Managers, [Decisional Letter on Critical Issue Fast Path – Reliability Backstop Procurement and Connect and Manage](#) (PDF), July 27, 2026

<sup>11</sup> Monitoring Analytics, LLC, [Proposed Limited Curtailment Alternative V2](#) (PDF), June 30, 2026

closely aligned with the proposed packages of PJM and other stakeholders in the Connect and Manage CIFP, and with the ultimate board decision. PJM raises the observation not as a point of disagreement but in recognition that the IMM's views on the matter may have evolved since the recommendation was first introduced in the State of the Market Report.

## Reserve Quantity Calculations

*The MMU recommends that reserve resources operating below economic minimum should not be treated as being backed down by that amount to provide reserve.*

### PJM Response

PJM agrees with the substance of this recommendation. A lost opportunity cost (LOC) credit in the reserve markets exists to make a resource whole when providing reserve causes it to forgo energy it would otherwise have produced and sold – that is, when the resource gives up a genuine energy-market margin in order to hold capacity in reserve. The credit is appropriate only to the extent that such an opportunity cost actually exists. Paying an LOC credit where the resource gave up nothing does not reflect a real cost and is not consistent with the purpose of the credit.

A resource operating below its economic minimum is generally not in that position. As the SOM notes, because the supply of secondary reserve substantially exceeds the 30-minute requirement, PJM does not in practice back resources down to clear additional secondary reserve. A resource generating below its economic minimum is typically starting up or ramping toward that minimum; the gap between its current output and its economic minimum is not energy it is being prevented from selling in order to provide reserve, but output it has not yet reached. Treating that gap as a quantity "backed down" to provide reserve therefore credits an opportunity cost the resource did not incur. The SOM identifies \$3,457,554 in such LOC credits paid in 2025 to secondary reserve resources that did not clear day-ahead and were generating below their economic minimum points.<sup>12</sup>

PJM views this as a question of settlement accuracy rather than market design, and it has already acted on it. The outcome the IMM describes arose from a specific mismatch between market clearing and settlements in the treatment of offline resources. Under the Tariff, opportunity costs for generation resources not synchronized to the grid are zero,<sup>13</sup> but neither the Tariff nor the manuals specified how the online/offline determination was to be made. Market clearing and settlements accordingly drew that status from different sources at different times: Real-Time Security Constrained Economic Dispatch (RT SCED) determined online/offline status from the state estimator at the time the case executed, while settlements determined it from revenue-quality meter data reported through Power Meter. A resource that was offline when the RT SCED case executed – and that therefore cleared as an offline resource with a \$0 opportunity cost – could synchronize during the intervening minutes and report non-zero output for that dispatch interval. Settlements would then treat it as online for the full interval and calculate a non-zero real-time secondary reserve opportunity cost, even though the resource had cleared as offline and had been given up nothing to hold reserve. That population is the same one the IMM identifies: a resource that has just synchronized and is

<sup>12</sup> 2025 SOM, Vol. 2, Section 10 (Ancillary Services)

<sup>13</sup> OATT Attachment K-Appendix § 3.2.3A.01(f)(v) and the parallel provisions of Operating Agreement, Schedule 1 ("The opportunity costs for Economic Load Response Participant resources and generation resources not synchronized to the grid shall be zero [...]")

reporting output below its economic minimum point is, by definition, a resource still ramping toward that minimum, and the LOC credits at issue are the credits that mismatch produced.

PJM corrected this through the Quick Fix process. PJM presented the issue at the Market Implementation Committee on December 3, 2025, and the resulting solution – using RT SCED case data rather than metered output to identify a resource as offline in settlements, so that offline status is determined consistently between clearing and settlement – completed the stakeholder process and was documented in Manual 28, Section 19.2.3, which now provides that resources with a real-time secondary reserve assignment that were cleared and committed as offline resources receive a \$0 opportunity cost.<sup>14</sup> Resources in the circumstance the IMM describes therefore no longer receive a real-time reserve LOC credit.

PJM is not aware of any remaining scenario that produces the settlement outcome described in the recommendation. To the extent the IMM has identified additional circumstances in which a resource operating below its economic minimum is nonetheless credited as having been backed down to provide reserve, including any not addressed by the offline-status clarification, PJM welcomes that information and will seek to address it. PJM also notes that this refinement is consistent with the broader effort underway in the Reserve Certainty Senior Task Force to ensure that reserve products are priced and settled in a manner that reflects the actual cost of the service provided.

## Primary Frequency Response Event Performance Evaluation

*The MMU recommends that PJM develop the metric(s) necessary to objectively evaluate each unit's performance during primary frequency response events.*

### PJM Response

By way of background, primary frequency response (PFR) is the first stage of frequency control: the automatic response of generator governors and responsive loads that arrest changes in system frequency within seconds of a deviation, before any centralized control acts. It is essential to the reliability of the interconnection and underpins compliance with NERC Reliability Standard BAL-003. In FERC Order 842 (2018), the Commission required newly interconnecting non-nuclear generating facilities to install a governor or equivalent controls capable of providing PFR – operating at a maximum 5% droop and a  $\pm 0.036$  Hz deadband or better – as a condition of receiving interconnection service. PJM incorporated those requirements into its governing documents.<sup>15</sup>

PJM agrees with the broad objective the recommendation reflects – that PFR performance should be evaluated against transparent, objective and verifiable criteria – and is engaged in work to that end. PJM would offer one clarification, however. PJM's evaluation of an individual unit's performance during a selected event is not, in PJM's view, a matter of unstructured judgment. PJM calculates each unit's expected response using the primary frequency control calculation set out in Manual 12, which derives the expected response from the unit's droop, deadband and frequency-responsive capacity given the observed frequency deviation, with an adjustment for any ramping in the

<sup>14</sup> PJM, [RT Secondary Reserve Opportunity Costs in Settlements — Identification of Offline Generation Resources](#) (PDF), Market Implementation Committee, December 3, 2025; PJM Manual 28: Operating Agreement Accounting § 19.2.3

<sup>15</sup> FERC Order 842 (2018) (requiring PFR capability and specifying control standards as a condition of interconnection service); PJM compliance revisions accepted, 164 FERC ¶ 61,224 (2018). See also NERC Reliability Standard BAL-003.

period before the event, and compares it to the unit's measured response.<sup>16</sup> That calculation follows the NERC PFR measurement approach. To the extent the recommendation is understood to suggest that no objective performance metric exists today, PJM respectfully notes that its per-unit determination already rests on a defined, NERC-based calculation rather than on ad hoc assessment.

That said, PJM agrees there are aspects of the framework where greater objectivity and transparency may be beneficial, and where it sees value in continued work with the IMM. One is event selection. PJM evaluates units during periods of large system frequency deviations and targets two to three events per month, but it does not fix the number or identity of events in advance; events are chosen based on system conditions against defined screening criteria and are reviewed quarterly with the Operating Committee.<sup>17</sup> PJM acknowledges that the selection of which events to evaluate involves a degree of discretion, and it is open to refining and codifying those criteria so that the basis for event selection is more consistent and reproducible. A second is the completeness of the evaluated population: PJM agrees that maintaining an accurate, current list of the resources subject to the Order 842 PFR requirements is important, and that new resources should be incorporated into the evaluation as they interconnect.

PJM and the IMM are already collaborating to update the population of units subject to evaluation and to refine the metrics used to monitor compliance and measure PFR performance for resources subject to Order 842. PJM is committed to continuing that joint effort – including improving the transparency of event selection and the retention of supporting event data so that results can be independently reviewed – and to reflecting any resulting refinements in Manual 12 and other appropriate governing documents.

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<sup>16</sup> PJM Manual 12: Balancing Operations § 3.6.1 (Rev. 57, eff. Apr. 22, 2026) (Generator Primary Frequency Response Evaluation). See also PJM Manual 14D: Generator Operational Requirements § 7.1.

<sup>17</sup> PJM Manual 12: Balancing Operations § 3.6.2 (Rev. 57, eff. Apr. 22, 2026) (Event Selection)