

# Regulation Redesign Phase 1 Implementation

Special Session of the  
Market Implementation Committee  
August 12, 2025

PJM has made all efforts possible to accurately document all information in this presentation.

The information seen here **does not** supersede the PJM Operating Agreement or the PJM Tariff or any pending FERC filings or orders.

**FERC Approval on  
June 14, 2024**

***Clean*** order accepting  
our Regulation Market  
Reform 205 filing

**Phase 1 Go-Live**  
Oct. 1, 2025

**Phase 2 Go-Live**  
Oct. 1, 2026

**2024**

**2025**

**2026**

## Effective Oct. 1, 2025, several aspects to the PJM Regulation Market will change

Result of Regulation Market Design Senior Task Force

### The intent of this special session is to:

Refresh understanding of new terminology and concepts.

Ensure awareness of business rule changes and impacts.

Create opportunity for clarifying questions.

Informing manual language is not part of this session – they are being presented already at the applicable stakeholder committee meetings.

## Aug. 12

High-Level Summary of Changes

Signal and Telemetry Changes

Performance Metrics

*Testing, performance scoring, mileage,  
de-assignment*

Markets Gateway

Data Miners

## Sept. 5

Regulation Market Business  
Rules Changes

*Offer data and clearing timing and  
Opportunity Cost calculation reform*

Regulation Settlement

FAQ/Q&A

| # | Design Components                          | Summary Description  |
|---|--|--|
| 1 | <b>Signals and Products</b>                | Change from <b>two</b> signals (RegA and RegD) bidirectional to <b>one</b> signal bidirectional that all resources that are assigned Regulation in a given market interval will follow.  |
| 2 | <b>Requirement MW</b>                      | Changes to better reflect operational needs with consideration both to historic and future system conditions   |
| 3 | <b>Performance Scoring</b>                 | Change from accuracy, delay and precision to precision only.   |
| 4 | <b>Offer and Clearing Timing</b>           | Eliminate “cost increase in VOM” except for Reg-only resources; change from hour clearing and commitment to 30-minute clearing and commitment.   |
| 5 | <b>Opportunity Cost Calculation Reform</b> | <ol style="list-style-type: none"> <li>1. Use the schedule the resource is running for energy or else the cheaper of available schedule for offline.</li> <li>2. Use tracking desired megawatt at LMP ramp rate limited.</li> <li>3. Use the area between LMP and the energy schedule the resource is running on.</li> </ol>   |
| 6 | <b>Settlement</b>                          | <p>For the eligible resources, Settlement will calculate the shoulder interval opportunity cost for two five-minute ramp-in intervals before the resource Regulation operation and two five-minute ramp-out intervals following the resource Regulation operation (currently, three intervals ramp-in and three intervals ramp-out).</p> <p>Also, Settlement will update the calculation for the Regulation Mileage Credit (currently Performance Credit) such that the mileage ratio is equal to (Real-Time Regulation Mileage/Historic Regulation Mileage)</p> |

# Phase 1 Upcoming Milestones and Timeline

| No. | Milestone   | Timeline                          |
|-----|---|-----------------------------------|
| 1   | RegD resources conversion testing begins                      | June 2025                         |
| 2   | All related manuals endorsement (Phase 1): M11, M12, M15, M28 | August 2025 (September if needed) |
| 3   | Special education session                                     | Aug. 12/Sept. 5, 2025             |
| 4   | Markets Gateway Train (Sandbox) testing (continues)           | September 2025                    |
| 5   | Regulation Redesign Phase 1 market opens                      | Sept. 25, 2025                    |
| 6   | Regulation Redesign Phase 1 go-live (cutover)                 | Oct. 1, 2025, at 00:00            |

The following documents have been posted on the Ancillary Services page under a new section called **Regulation Redesign**:

|   |   |   |   |
|---|---|---|---|
| Regulation Effective<br>MW Requirement<br>Definition (2025–2026)<br>– PDF | Regulation Cost-Based Offer<br>Validation Phase I – XLS | Self-Administered<br>Regulation Test –<br>XLS       | Regulation<br>Redesign Phase<br>1 FAQ – PDF |
| 40-Minute Performance<br>Score Template – XLSM                            | XML Schema –<br>XSD                                     | PJM External Interface<br>Specification Guide – PDF | Regulation<br>Redesign Phase 1<br>FAQ – PDF |

[PJM.com > Markets & Operations > Ancillary Services >](#)



| Inquiry  | Email Contact  |
|--|--|
| <b>To request a Regulation test</b>                      | <a href="mailto:RegulationTesting@pjm.com">RegulationTesting@pjm.com</a>     |
| <b>Regulation telemetry – signal setup or conversion</b> | <a href="mailto:PJMTelemetrySupport@pjm.com">PJMTelemetrySupport@pjm.com</a> |
| <b>Regulation redesign questions</b>                     | <a href="mailto:RegulationDesign@pjm.com">RegulationDesign@pjm.com</a>       |
| <b>Communication to PJM Member Relations</b>             | <a href="mailto:custsvc@pjm.com">custsvc@pjm.com</a>                         |

# EMS Changes

Jeff Hoffman – Lead Engineer

EMS Support

# What Is Changing?

## Design Change Summary

**Changes Effective: Oct. 1, 2025**

### Signal Unification

Signals will be combined into a singular Regulation signal.

Regulation A & Regulation D → **Regulation A**

### Newer Control Scan Interval for ACE Control

Old Regulation A: Slow

Old Regulation D: Fast

Old Regulation A → **New Regulation A**

***Faster than old RegA but slower than RegD***

**New test patterns installed for recertification of Regulation D resources for Regulation A.**

## RegA vs. New RegA

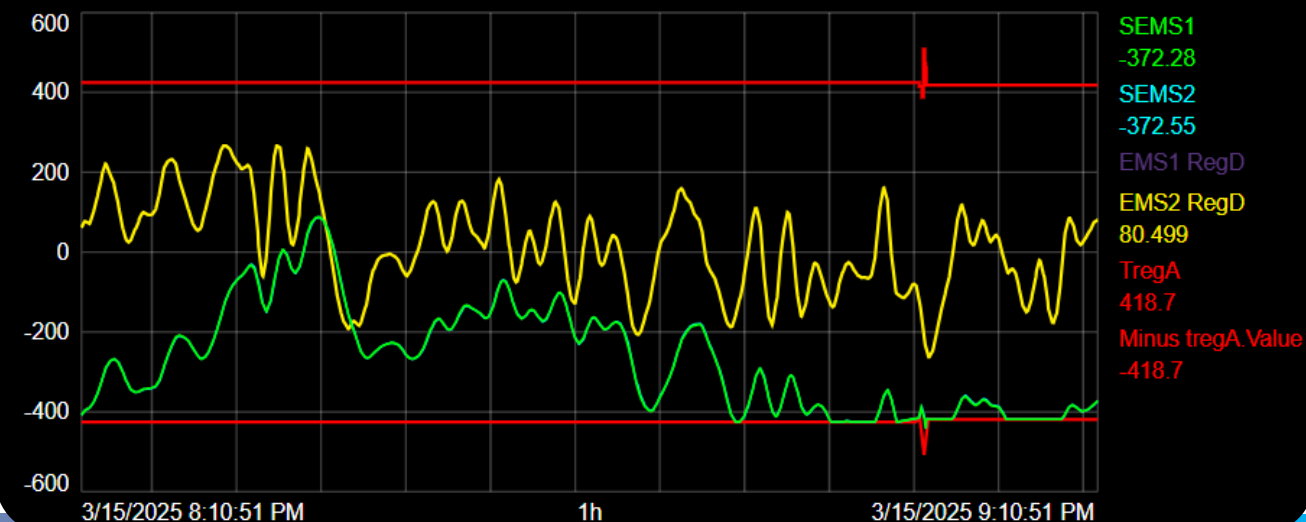


## New RegA Comparison

### New RegA vs. Old RegA Signal:

- New RegA
- Old RegA

## RegD vs. New RegA



### New RegA vs. Current RegD Signal:

- New RegA
- Current RegD

## Fleets with:

**1** **RegA-only resources:** No changes necessary for cutover

**2** **RegD-only resources:** will need to add RegA control signals

- Use existing fleet; however, add new RegA fleet component signals: **RegA Fleet:** CREG(A), TREG(A), RegA | **Unit Level:** AREG(A)
- Resources will be instructed to perform work to switch and utilize signals on cutover day.
- Resources can still control under RegD up until cutover day on Oct. 1, 2025.

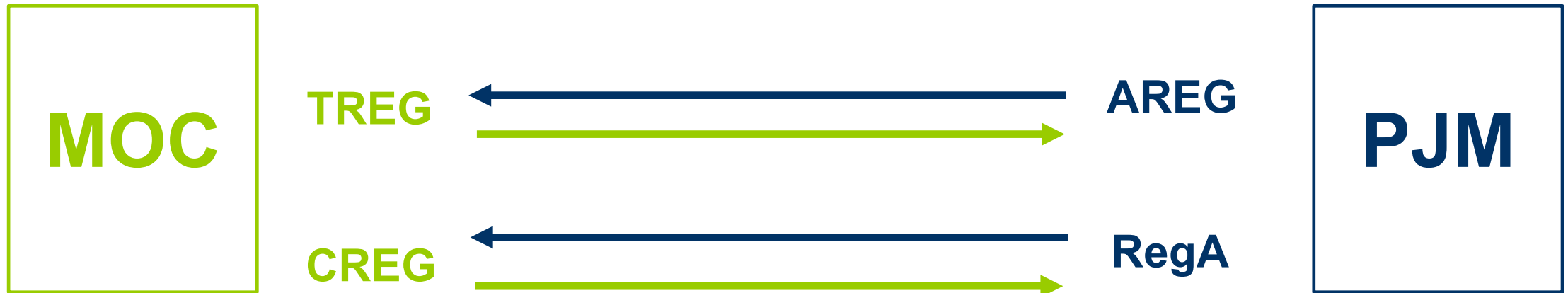
**3** **Resources participating in both RegA & RegD**

- Resources can still control under RegD up until cutover day on Oct. 1, 2025.
- If fleet is RegA and RegD capable, but for resource that does not have unit AREG(A) signal, the member will have to perform work to add unit AREG(A) signal.

All RegD-only fleets will have RegA fleet telemetry points added to their link along with assigned Regulation (AREG) points for each unit.

All RegD resources will be made RegA resources in the interval average scoring application.

Resources will carry over their RegD average score to start at the market change.



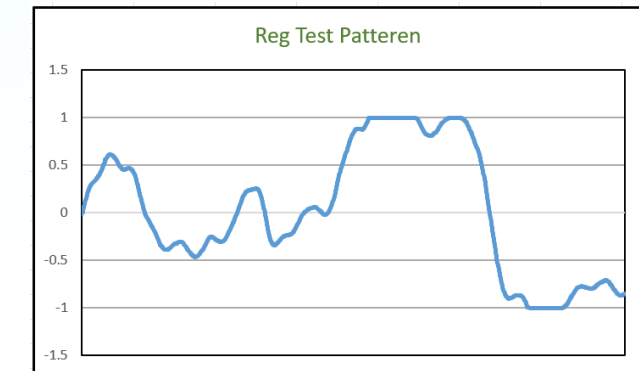
## New Test Patterns Made Available in Production EMS on June 1, 2025

Allows members to certify resources as new RegA resources with the new test pattern ahead of the Oct. 1, 2025, date

Members can access several resources under the “Regulation Redesign” section of [PJM.com > Markets & Operations > Ancillary Services](#):

| Regulation Redesign  | Date      |
|--|-----------|
| A Sample Normalize New Regulation Signal for One Day <a href="#">XLS</a>                   | 7.16.2025 |
| Markets Gateway: Regulation Redesign Phase 1 - Sandbox Virtual Session <a href="#">PDF</a> | 6.20.2025 |
| XML Schema <a href="#">XSD</a>   | 6.12.2025 |
| Regulation Effective MW Requirement Definition (2025-2026) <a href="#">PDF</a>             | 7.9.2025  |
| Regulation Cost-Based Offer Validation Phase I <a href="#">XLS</a>                         | 4.30.2025 |
| Self-Administered Regulation Test <a href="#">XLS</a>                                      | 4.30.2025 |
| 40-Minute Performance Score Template <a href="#">XLS</a>                                   | 4.30.2025 |
| PJM External Interface Specification Guide <a href="#">PDF</a>                             | 4.25.2025 |

- Self-Administered Regulation Test
- A Sample Normalize New Regulation Signal





Members can utilize new signal resources (self-administered regulation test & sample normalized new regulation signal) to aid in RegA conversion preparedness.

- **Self-administered regulation test does not count toward a formal resource recertification for RegD-only resources.**

Member would need to request a PJM-administered regulation test through the [RegulationTesting@pjm.com](mailto:RegulationTesting@pjm.com).

- **If RegD-only resources do not complete the signal conversion test before Oct. 1, 2025, then they will need to recertify after the go-live in order to continue to participate in the Regulation Market.**

# Performance Score and Testing

Jeremy Rosser, Lead Analyst

Ilyana Dropkin, Sr. Engineer II

Performance Compliance

## Agenda

Regulation Megawatt Requirements

Regulation De-Assignment

Performance Scoring

Cost-Based Offer

Rolling Average (Daily Score)

Regulation Testing

Regulation Mileage

Regulation Testing for Phase I Transition

# Regulation Effective Megawatt Requirement Definition

| Season | Dates            | Hours Ending      | Requirement MW |
|--------|------------------|-------------------|----------------|
| Winter | Nov. 1–Feb. 28   | HE 5–10, HE 17–24 | 750            |
|        |                  | HE 1, HE 11       | 650            |
|        |                  | HE 2–4, HE 12–16  | 550            |
| Spring | March 1–April 30 | HE 19–1, HE 6–9   | 750            |
|        |                  | HE 2, HE 10       | 650            |
|        |                  | HE 3–5, HE 11–18  | 550            |
| Summer | May 1–Sept. 15   | HE 5–1            | 750            |
|        |                  | HE 2              | 650            |
|        |                  | HE 3–4            | 550            |
| Fall   | Sept. 16–Oct. 31 | HE 6–9, HE 18–24  | 750            |
|        |                  | HE 1, HE 10       | 650            |
|        |                  | HE 2–5, HE 11–17  | 550            |

*\*\*This requirement definition will be effective from Oct. 1, 2025, until Oct. 31, 2026.*

**Goal:** Codify an annual review of system performance metrics and adjust requirement using seasonal hourly statistics from past year.

- The Regulation Requirement megawatts table will be reviewed annually in October at the Operating Committee meeting and posted on [PJM's website](#).  
*The adjusted values shall be effective from Nov. 1 of the current year through Oct. 31 of the following year.*
- The selected control metrics used to determine requirement adjustment.

## ACE Time Out of Bounds (TOB):

Time Net ACE spends “out of bounds”

Bounds set as 2\*NERC L10 value for PJM (CPS2) (NERC BAL-001).

## Regulation Utilization (RU):

Quantifies how PJM typically relied on Regulation during a period of time

## BAAL Minutes (BAAL):

Reflects PJM’s negative impact on system frequency

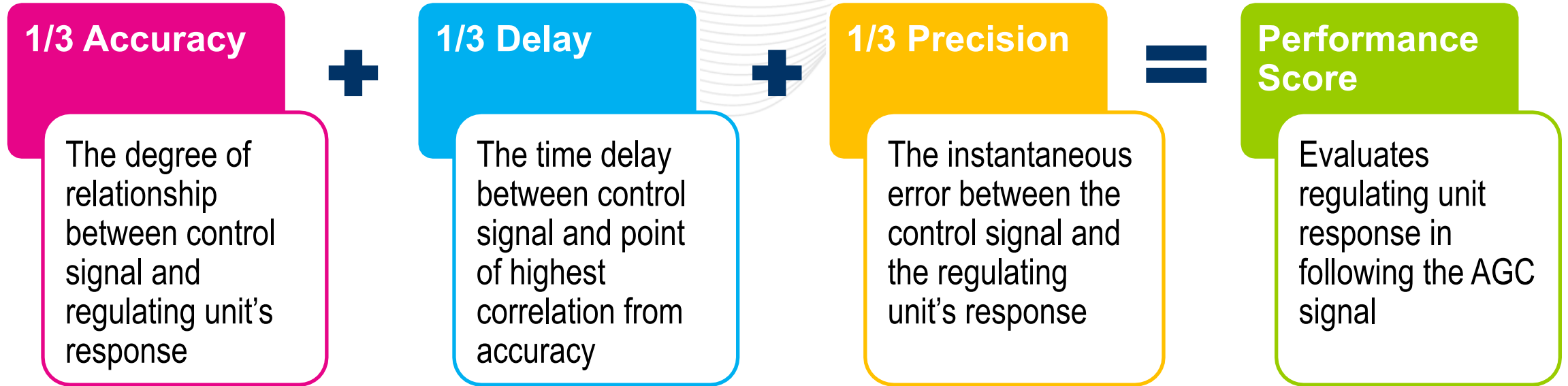
Sum of BAAL minutes in the interval (NERC BAL-001)

## Min/Max Deployment:

Time that Regulation is pegged in either direction

Quantifies severity of operational need during a period of time

*\*\*PJM Dispatch may adjust Regulation Requirements megawatt based on system conditions.*



$$Error = Avg\ of\ Abs\ \left| \frac{(Response - Regulation\ Signal)}{Hourly\ Average\ Regulation\ Signal} \right|$$

$$Precision\ Score = 1 - \frac{1}{n} \sum Abs(Error)$$

## Precision

The instantaneous error between the control signal and the regulating unit's response



## Performance Score

Evaluates regulating unit response in following the AGC signal

$$Error = Avg\ of\ Abs\left(\frac{Abs(Response_{10sec} - Signal_{10sec})}{0.5 * IntervalSignal_{AvgAbs} + 0.5 * AREG}\right)$$

$$Performance\ Score_{Interval} = 1 - \frac{1}{n} \sum Abs(Error)$$

$$IntervalSignal_{AvgAbs} = \frac{1}{n} \sum Abs(Signal)$$

For the implementation on **Oct. 1, 2025**, the historic performance score will remain a 100-hour performance average.

➡ *Going forward*, PJM will calculate the Regulation resource historic performance scores based on the new 30-minute commitment performance score rather than hourly commitment performance scores.

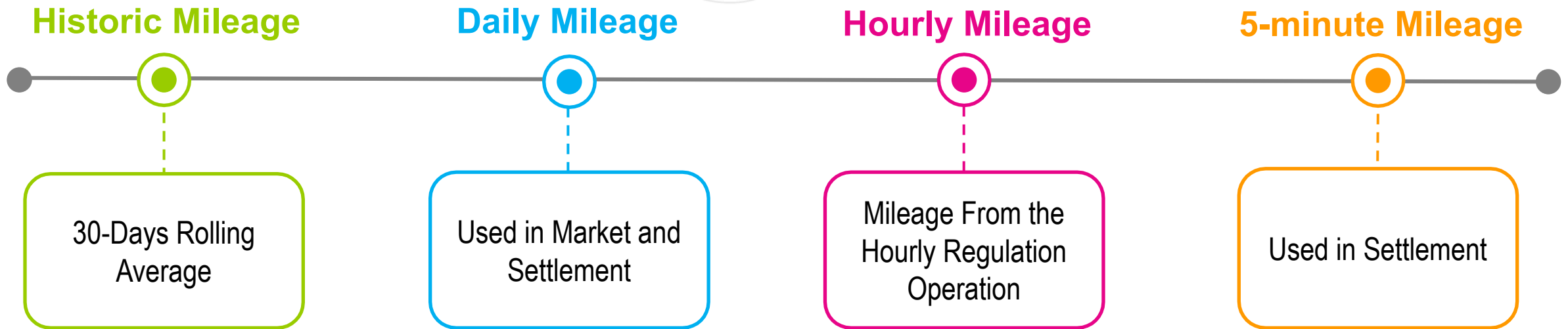
Historic performance scores will be calculated based on 200 30-minute intervals rather than 100 hours.



Self de-assignment results in **zero** score for the remainder of the commitment period.

PJM dispatcher de-assignment **does not impact performance score**. For a PJM dispatcher de-assignment, the historic performance score will be used in the remainder of the period the resource is de-assigned.

Reg Mileage Represents the Movement of the Signal



*RegD mileage calculation will be retired.*

Effective **Oct. 1, 2025**, only the non-energy Regulation resource may include VOM in its offer.

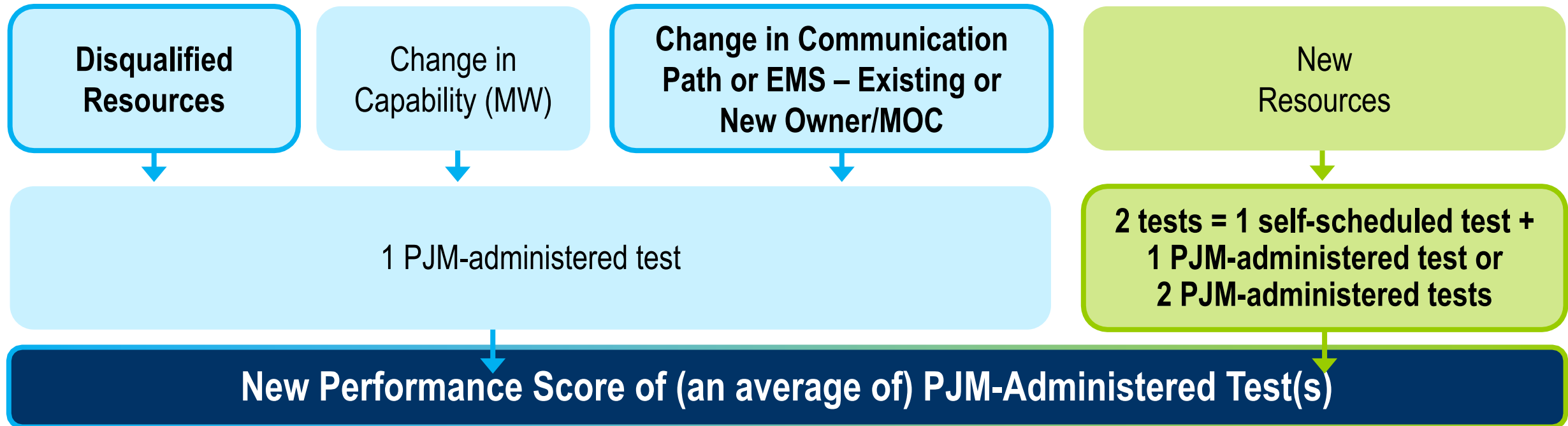


**ACTION ITEM:** PJM will require that all the affected Regulation resources submit new offer prices in accordance with the new rules effective Oct. 1, 2025.


Refer to Manual 15, Section 2.8, Regulation Service, [redline](#) for more details.

## Reduce testing requirements for qualification.


- New resources will test two times (status quo: 3).
- Disqualified resources will test one time (status quo: 3).



**\*\*Refer to Manual 12, Section 4.4, Qualifying Regulation Resources [redline](#) for more details.**

 **ACTION ITEM:** RegD-only resources must conduct a conversion test prior to **Sept. 22, 2025**, to avoid disruptions to their participation in the Regulation Market.

- PJM will conduct the signal conversion test using the new Reg signal.
- Scoring of the signal conversion test will use the existing performance score calculation.
- The resource must test for the same megawatt capability or less than it was qualified for RegD.
- Resource owners must take the RegD-only resource testing for signal conversion out of the Regulation Market in the hour it is testing. The rest of the resources in the RegD-only fleet can continue participating in the Regulation Market during the signal conversion test.
- The resource owner will need to schedule a test for only one resource from the fleet.

 **ACTION ITEM:** RegD-only resources must contact PJM Telemetry Support to update their points.

PJM will reuse the same RegA telemetry points for RegA-only resources and RegA/RegD dual-certified resources.

# Signal Type and Testing Requirement

| Signal Type and Testing Requirement | No. | Status Quo (Pre Phase 1)  | For Phase 1 Transition  |
|-------------------------------------|-----|---|---|
|                                     | 1   | RegD signal and RegD resources participation in the Regulation Market | Effective Oct. 1, 2025, RegD signal and RegD-only resources participation in the Regulation Market will be terminated.  |
|                                     | 2   | RegD-only certified resources   | To avoid disruption during Phase 1 transition on Oct. 1, 2025, RegD-only resources that want to continue to participate in the Regulation Market will need schedule signal conversion testing any time from June 1, 2025. |
|                                     | 3   | RegA-only certified resources   | No additional testing is required as new signal will use RegA signal path.  |
|                                     | 4   | RegA/RegD dual-certified resources                                    | Effective Oct. 1, 2025, RegA/RegD dual-certified resources will continue on RegA signal only for continuous participation in the Regulation Market.   |

| Regulation Certified MW | No. | Status Quo (Pre Phase 1)           | For Phase 1 Transition   |
|-------------------------|-----|------------------------------------|--|
|                         | 5   | RegD-only certified resources      | Effective Oct. 1, 2025, RegD-only resources that completed their signal path conversion test successfully will automatically carry forward their RegD certified MW as Reg Certified MW except if an uprate or derate MW test is requested. |
|                         | 6   | RegA-only certified resources      | RegA certified MW will automatically carry forward.  |
|                         | 7   | RegA/RegD dual-certified resources | Effective Oct. 1, 2025, RegA/RegD dual-certified resources will automatically carry forward the higher of RegA or RegD certified MW as Reg certified MW.   |

| Historic Performance Score | No. | Status Quo (Pre Phase 1)           | For Phase 1 Transition  |
|----------------------------|-----|------------------------------------|---|
|                            | 8   | RegD-only certified resources      | Effective Oct. 1, 2025, RegD-only resources that completed their signal path conversion test successfully will automatically carry forward their RegD historic performance score as Reg historic performance score. |
|                            | 9   | RegA-only certified resources      | RegA historic performance score will automatically carry forward.   |
|                            | 10  | RegA/RegD dual-certified resources | Effective Oct. 1, 2025, RegA/RegD dual-certified resources will automatically carry forward the higher of RegA or RegD historic performance score as Reg historic performance score.                                |



# Markets Gateway Changes

| # | Markets Gateway Screen   | Summary Description  |
|---|--|--|
| 1 | <b>Demand Response &gt; Regulation Market &gt; Offers / Updates</b><br><b>Generator &gt; Regulation Market &gt; Offers / Updates</b>         | On Offer page, removed column "Type" for A/D<br>On Update page, merged, deleted and rearranged columns         |
| 2 | <b>Demand Response &gt; Regulation Market &gt; Offers</b><br><b>Generator &gt; Regulation Market &gt; Offers</b>                             | Changed Performance Offer Price to Mileage Offer Price<br>Changed Performance Offer Cost to Mileage Offer Cost |
| 3 | <b>Generator &gt; Regulation Market &gt; Offers</b>  | Removed VOM except for Regulation-only resources   |
| 4 | <b>Demand Response &gt; Regulation Market &gt; Updates</b><br><b>Generator &gt; Regulation Market &gt; Updates</b>                           | Changed Performance Offer Price to Mileage Offer Price<br>Changed Performance Offer Cost to Mileage Offer Cost |
| 5 | <b>Demand Response &gt; Regulation Market &gt; Availability Updates</b><br><b>Generator &gt; Regulation Market &gt; Availability Updates</b> | New screen to indicate availability status and self-schedule on a 30-minute granularity                        |
| 6 | <b>Demand Response &gt; Market Results &gt; Regulation Award</b><br><b>Generator &gt; Market Results &gt; Regulation Award</b>               | Changed Regulation Award page from hourly granularity to 30 minutes; deleted RegD columns                      |
| 7 | <b>Public &gt; Market Results Ancillary &gt; Regulation Results</b>  | Changed Regulation Award page from hourly granularity to 30 minutes  |

| Offer Type  | Markets Gateway Location  | Deadline To Update   |
|---|---|--|
| <b>Daily Offer</b>                                    | Demand Response > Regulation Market > Offers<br>Generator > Regulation Market > Offers                                | End of Rebid Period (14:15)<br>the Day Before the Operating<br>Day |
| <b>Hourly Updates</b>                                 | Demand Response > Regulation Markets > Updates<br>Generator > Regulation Market > Updates                             | 35 Minutes Prior to the<br>Operating Hour*                         |
| <b>30-Min.<br/>Availability<br/>(Regulation only)</b> | Demand Response > Regulation Market > Availability<br>Updates<br>Generator > Regulation Market > Availability Updates | 35 Minutes Prior to the<br>Operating Period                        |

*\*Note: Hourly Regulation Capability Offer Price/Cost and Hourly Regulation Mileage Offer Price/Cost can only be updated intraday for resources that are opted in to Intraday Offers (IDO). If opted out of IDO, they may still be submitted prior to 14:15 the day before the Operating Day.*

# Sample ASO Case Execution, Posting and Target Intervals

| Cases  | Execution Time | Product Types         | Markets Gateway Posting Deadline | Target Time (Begin) |
|--------|----------------|-----------------------|----------------------------------|---------------------|
| ASO 00 | 12:30          | Regulation & Reserves | 12:50                            | 13:00               |
| ASO 30 | 13:00          | Regulation Only       | 13:20                            | 13:30               |
| ASO 00 | 13:30          | Regulation & Reserves | 13:50                            | 14:00               |
| ASO 30 | 14:00          | Regulation Only       | 14:20                            | 14:30               |

*Regulation and Reserves results notification of at least 10 minutes before the operating time*

*If ASO 30 is missed, All-Call must go out by **hh:20** to extend the last **Regulation assignment**.*

*If **ASO 00** is missed, All-Call must go out by **hh:50** to extend the last **Regulation and Inflexible Reserve assignment**.*

The following documents have been posted on the Markets Gateway documents page under a new section called **Regulation Redesign**:

PJM External Interface  
Specification Guide

XSD Schema

[PJM.com > Markets & Operations > PJM Tools > Markets Gateway](#)

# Data Miner 2 Changes

| # | Key Update Highlight                                 | Description of Change  |
|---|--|--|
| 1 | <b>Number of records increasing</b>                  | Since ASO is moving from 60 mins. to 30 mins. duration, there will be 48 records per day instead of 24 records (except for DST).   |
| 2 | <b>Records to return “null”</b>                      | The following will return null: REGD_SSMW, REGD_PROCURE, REGD_MILEAGE, REGA_HOURLY, REGD_HOURLY  |
| 3 | <b>“RegA” column naming update to “Reg”</b>          | Update “RegA Self-scheduled eff. MW” to “Reg Self-scheduled eff. MW,” “RegA pool procured eff. MW” to “Reg pool procured eff. MW,” “RegA 30-day mileage” to “Reg 30-day mileage.”  |
| 4 | <b>Field description changes, noting retirements</b> | RegD Self-scheduled eff. MW, RegD pool procured eff. MW, RegD 30-day mileage, RegA hourly mileage, RegD hourly mileage will be updated to reflect – “This column is retired as of 10/1/2025.”  |
| 5 | <b>Field description changes, noting updates</b>     | Reg Self-scheduled eff. MW – “Self-Scheduled Regulation Effective MW”<br>Reg pool procured eff. MW – “Pool Procured Regulation Effective MW”<br>Reg 30-day mileage – “30-day average of $\Delta$ MW/MW for an ideal resource following the Regulation signal.” |
| 6 | <b>CSV column name changes</b>                       | Update “rega_ssmw” to “reg_ssmw,” “rega_procure” to “reg_procure,” “rega_mileage” to “reg_mileage”   |

| # | Key Update Highlight                          | Description of Change   |
|---|---|---|
| 1 | <b>Marginal benefits factor to be removed</b> | Marginal benefits factor no longer used in new Regulation logic; column will be removed.  |
| 2 | <b>Update to “Performance Clearing Price”</b> | “Mileage Clearing Price” field name will update to “Performance Clearing Price.”  |
| 3 | <b>CSV column name changes</b>                | Update “reserve_quantity” to “regulation_quantity,” “reserve_requirement” to “regulation_requirement,” “performance_clearing_price” to “mileage_clearing_price.”<br>Remove “marginal_benefits_factor” column. |



| # | Key Update Highlight      | Description of Change  |
|---|---------------------------|--|
| 1 | Columns to return “null”  | REGD MW and TIER1 MW to return “null”  |
| 2 | Field name changes        | Update “Regulation Performance Clearing Price” to “Regulation Mileage Clearing Price.”   |
| 3 | Field description changes | <p><b>Updates:</b></p> <p>Assigned MW – “Assigned Raw MW towards satisfying the requirement for the selected service and locale. Self-scheduled MW is included. This value is from the Dispatch Run.”</p> <p>Self-scheduled MW – “Self-scheduled Raw MW. This is also included in the Assigned MW. This value is from the Dispatch Run.”</p> <p>Tier 1 MW – “Incidental Reserve MW from qualified partially loaded online units. This value is from the Dispatch Run. This column is retired as of 10/1/2022.”</p> <p>REGD MW – “Assigned Dynamic Regulation Raw MW towards satisfying the Regulation Requirement. This value is from the Dispatch Run. This column is retired as of 10/1/2025.”</p> |
| 4 | CSV column name changes   | Update “reg_pcp” to “reg_mil_cp.”  |

| # | Key Update Highlight | Description of Change   |
|---|----------------------|---|
| 1 | <b>Data update</b>   | <p>“RTO Regulation Performance” with type “Price” renamed to “RTO Regulation Mileage”</p> <p>“RTO Mileage Ratio” with type “Ratio” redefined to equal 5-Min Actual Mileage/Historical (Daily) Mileage</p> |

# Appendix: Markets Gateway Screenshots



© 2007 The Authors  
Journal compilation © 2007 Blackwell Publishing Ltd

[Home](#)
[About Us](#)
[Contact Us](#)
[Privacy Policy](#)
[Terms of Service](#)

|  | Hour | Reg. MW | Reg. Min. MW | Reg. Max. MW | Spilling | Reduced Ramp Rate (%) | Min. Offer MW | Reg. Capability Offer Price | Reg. Mileage Offer Price | Reg. Capability Offer Cost | Reg. Mileage Offer Cost |
|--|------|---------|--------------|--------------|----------|-----------------------|---------------|-----------------------------|--------------------------|----------------------------|-------------------------|
|  | 1    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 2    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 3    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 4    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 5    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 6    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 7    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 8    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |
|  | 9    |         |              |              | -        | 0                     |               |                             |                          |                            |                         |



bioRxiv preprint doi: <https://doi.org/10.1101/2019.04.03.300000>; this version posted April 3, 2019. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

Offers **Updates** Availability Updates

bioRxiv preprint doi: <https://doi.org/10.1101/000000>; this version posted January 1, 2016. The copyright holder for this preprint (which was not certified by peer review) is the author/funder, who has granted bioRxiv a license to display the preprint in perpetuity. It is made available under aCC-BY-NC-ND 4.0 International license.

Reg MW: Reg Min MW: Reg Max MW:



# Demand Response > Regulation Market > Availability Updates Generator > Regulation Market > Availability Updates

Offers

Updates

Availability Updates

REG AVAILABILITY : AVAILABLE

Reg Availability : Available

| <input type="checkbox"/>            | Interval | Reg Availability |
|-------------------------------------|----------|------------------|
| <input type="checkbox"/>            | 13:00    |                  |
| <input type="checkbox"/>            | 13:30    |                  |
| <input type="checkbox"/>            | 14:00    |                  |
| <input type="checkbox"/>            | 14:30    |                  |
| <input type="checkbox"/>            | 15:00    |                  |
| <input checked="" type="checkbox"/> | 15:30    |                  |
| <input type="checkbox"/>            | 16:00    |                  |
| <input type="checkbox"/>            | 16:30    | Not Available    |
| <input type="checkbox"/>            | 17:00    | Self Scheduled   |
| <input type="checkbox"/>            | 17:30    | Available        |
| <input type="checkbox"/>            | 18:00    |                  |
| <input type="checkbox"/>            | 18:30    |                  |



# Demand Response > Market Results > Regulation Award Generator > Market Results > Regulation Award

DA Energy Award   **Regulation Award**   DA Synchronized Reserve Award   RT Synchronized Reserve Award   DA Non-Synchronized Reserve Award   DA Secondary Reserve Award   RT Secondary Reserve Award

01/01/2025 - 01/01/2025

| Interval | Location | Reg Offer MW | Self-Schedule MW | Reg Awarded MW | TPS Result | Reg Offer Price Used | Performance Score |
|----------|----------|--------------|------------------|----------------|------------|----------------------|-------------------|
| Show all | Show all | Show all     | Show all         | Show all       | Show all   | Show all             | Show all          |
| 00:30    |          |              |                  |                | FAIL       |                      |                   |
| 01:00    |          |              |                  |                | PASS       |                      |                   |
| 01:30    |          |              |                  |                | PASS       |                      |                   |
| 02:00    |          |              |                  |                | PASS       |                      |                   |
| 02:30    |          |              |                  |                |            |                      |                   |
| 03:00    |          |              |                  |                | FAIL       |                      |                   |
| 03:30    |          |              |                  |                | FAIL       |                      |                   |
| 04:00    |          |              |                  |                | PASS       |                      |                   |
| 04:30    |          |              |                  |                | PASS       |                      |                   |
| 05:00    |          |              |                  |                | FAIL       |                      |                   |
| 05:30    |          |              |                  |                | PASS       |                      |                   |
| 06:00    |          |              |                  |                | PASS       |                      |                   |
| 06:30    |          |              |                  |                | PASS       |                      |                   |
| 07:00    |          |              |                  |                | PASS       |                      |                   |
| 07:30    |          |              |                  |                | PASS       |                      |                   |

Regulation Results

DA Synchronized Reserve Results

RT Synchronized Reserve Results

DA Primary Reserve Results

RT Primary Reserve Results

DA 30 Minute Reserve Results

RT 30 Minute Reserve Results

Active Subzone

00:00:00 - 07:30:00

| Interval | Requirement | Reg. Self Scheduled Effective MW | Reg. Procured Effective MW | Total    | Deficiency | RTO Average Performance Score | Reg. Mileage |
|----------|-------------|----------------------------------|----------------------------|----------|------------|-------------------------------|--------------|
| Show all | Show all    | Show all                         | Show all                   | Show all | Show all   | Show all                      | Show all     |
| 00:30    |             |                                  |                            |          | 0.0        |                               |              |
| 01:00    |             |                                  |                            |          | 0.0        |                               |              |
| 01:30    |             |                                  |                            |          | 0.0        |                               |              |
| 02:00    |             |                                  |                            |          | 0.0        |                               |              |
| 02:30    |             |                                  |                            |          | 0.0        |                               |              |
| 03:00    |             |                                  |                            |          | 0.0        |                               |              |
| 03:30    |             |                                  |                            |          | 0.0        |                               |              |
| 04:00    |             |                                  |                            |          | 0.0        |                               |              |
| 04:30    |             |                                  |                            |          | 0.0        |                               |              |
| 05:00    |             |                                  |                            |          | 0.0        |                               |              |
| 05:30    |             |                                  |                            |          | 0.0        |                               |              |
| 06:00    |             |                                  |                            |          | 0.0        | 8.0002                        |              |
| 06:30    |             |                                  |                            |          | 0.0        |                               |              |
| 07:00    |             |                                  |                            |          | 0.0        |                               |              |
| 07:30    |             |                                  |                            |          | 0.0        |                               |              |



## Chair:

Foluso Afelumo, [Foluso.Afelumo@pjm.com](mailto:Foluso.Afelumo@pjm.com)

## Secretary:

Stefan Starkov, [Stefan.Starkov@pjm.com](mailto:Stefan.Starkov@pjm.com)

## Presenters/SMEs:

Michael Olaleye, [Michael.Olaleye@pjm.com](mailto:Michael.Olaleye@pjm.com)

Jeff Hoffman, [Jeff.Hoffman@pjm.com](mailto:Jeff.Hoffman@pjm.com)

Ilyana Dropkin, [Ilyana.Dropkin@pjm.com](mailto:Ilyana.Dropkin@pjm.com)

Jeremy Rosser, [Jeremy.Rosser@pjm.com](mailto:Jeremy.Rosser@pjm.com)

Damon Fereshetian, [Damon.Fereshetian@pjm.com](mailto:Damon.Fereshetian@pjm.com)

## Regulation Redesign Phase 1



## Member Hotline

(610) 666 – 8980

(866) 400 – 8980

[custsvc@pjm.com](mailto:custsvc@pjm.com)

**PROTECT THE  
POWER GRID  
THINK BEFORE  
YOU CLICK!**



Be alert to  
malicious  
phishing emails.

**Report suspicious email activity to PJM.**  
(610) 666-2244 / [it\\_ops\\_ctr\\_shift@pjm.com](mailto:it_ops_ctr_shift@pjm.com)

