

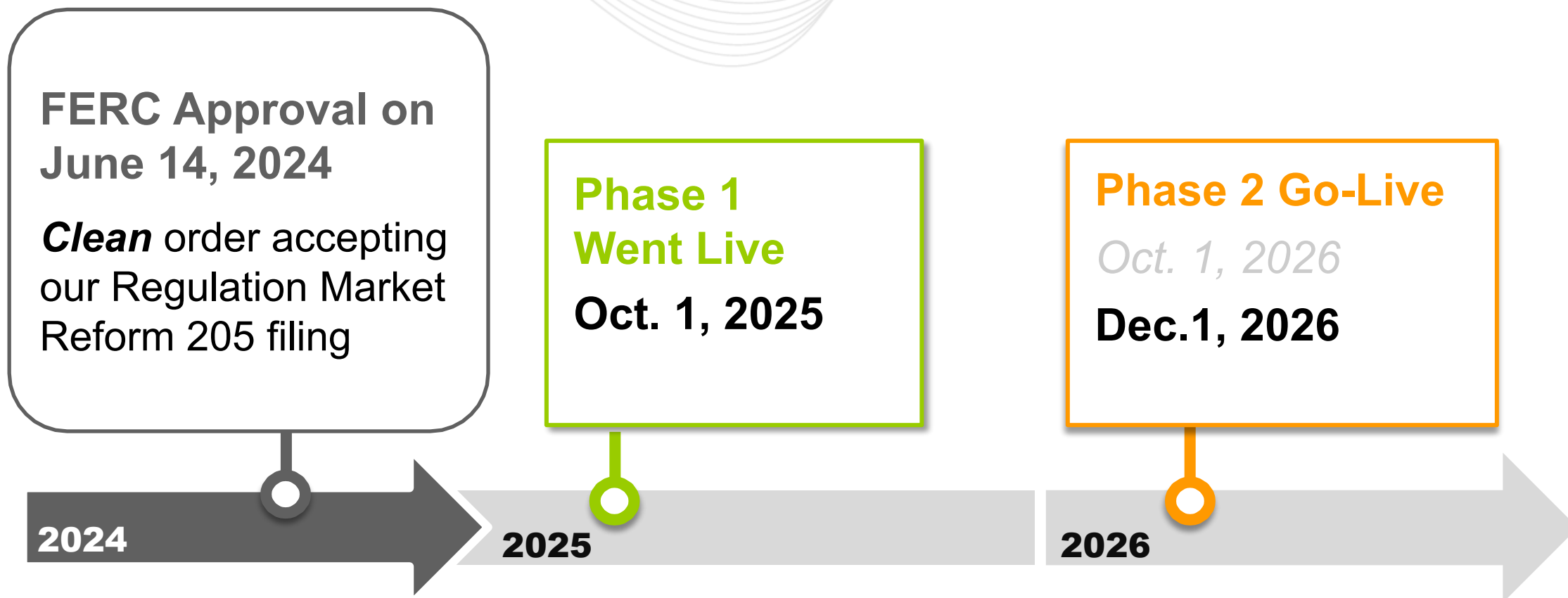
Regulation Redesign Phase 2 Timeline & Testing Update

Michael Olaleye
Sr. Lead Engineer, Real-Time Market Operations

Market Implementation Committee
July 8, 2026

Disclaimer: While materials are current at the time of publishing, applicable requirements may change. PJM Governing Documents control.

Action Required	Deadline	Who May Be Affected
Submit RegUp and/or RegDn offers and parameters data in Markets Gateway sandbox	Overdue	Regulation Market Participants
Complete RegUp and/or RegDn signal conversion testing	Overdue	Regulation Market Participants
Communicate to staff about the Regulation Redesign Phase 2 Go-Live date	12/01/2026	Regulation Market Participants
		



Actively Submit Your RegUp/RegDn Offers and Parameters in the Markets Gateway (MG) Sandbox!

Why Your Participation Matters

- Ensure full representation of various resource types for RegUp/RegDn testing
- Validate your offers, parameters and integrations early
- Provide real-world data that drives better logic validations and results

Let's Work Together for Phase 2 Success

Your active participation is key to building a robust, efficient, and reliable Regulation market, operation, and pricing. Thank you for partnering with PJM.

How It Works in the Sandbox



Submit RegUp/RegDn Offers & Parameters in MG Sandbox



QLIK Process moves data to STG



Regulation Clearing every 30 minutes



QLIK Process returns results to MG Sandbox for posting

*Regulation market clearing and results will be posted **every 30 minutes***

What You Can Do



1. Submit your RegUp/RegDn offers and parameters
2. Test new and updated MG features
3. Develop and validate your third-party software integrations
4. Share feedback and report issues

Complete Your RegUp/RegDn Signal Conversion Testing



Be Ready.

Timely testing today prevents participation disruption tomorrow.

Test early and avoid risk.

Why Test Now?

- Validate your RegUp/RegDn telemetry and signal path and logic
- Ensure your systems correctly receive, process, and respond to the new signals
- Identify and resolve issues early – before they impact your ability to participate

Gain confidence that your resources will perform reliably on Go-Live day and beyond.

Avoid Last-Minute Testing

- Late testing increases the risk of unresolved issues before Go-Live.
- A surge of last-minute requests can overwhelm support teams and delay issue resolution.
- Limited time for fixes and retesting may jeopardize your readiness.

Last-minute overwhelming testing requests are highly discouraged.

Start Testing Today

Early testing helps ensure a smooth transition and uninterrupted participation when Regulation Redesign Phase 2 goes live.

No.	Milestone	Timeline
1	Regulation Redesign information update at the TCF	Since March 2026
2	Open Houses 1 & Open House 2 (virtual)	March 30 July 30, 2026
3	RegUp / RegDn resources conversion testing	Since June 8, 2026
4	Markets Gateway Train (Sandbox) opens for testing	Since June 16, 2026
5	All related manuals first read (Phase 1): M11, M12, M15*, M28	September 2026
6	All related manuals endorsed (Phase 1): M11, M12, M15*, M28	October 2026 (November if needed)
7	Special education series 1 & 2	October 2026 November 2026
8	Market PCT Pricing Simulation	October 2026 November 2026
9	Regulation Redesign Phase 2 market opens	Nov. 25, 2026
10	Regulation Redesign Phase 2 go-live (cutover)	Dec. 1, 2026, at 00:00 EST

*Endorsement is done.

Regulation Market Redesign **Phase 2**

Virtual Open House July 30, 2026 9-11 a.m. Eastern

Intended Audience:

- Participants responsible for PJM Regulation Market operations and settlements
- PJM Members and customers interested in learning more about Regulation Market Redesign Phase 2



Scan the QR code for registration or contact: **Christina Barker**
Christina.barker@pjm.com.

During the open house, you will:

Understand significant changes in Phase 2, including having the two products: Regulation Up and Regulation Down.

Discover new rules and operator responsibilities and **share** thoughts with other Members and PJM SMEs.

Learn how to engage with our PJM team for data submission, results retrieval and testing.

Give feedback to PJM for better support prior to the upcoming Phase 2 implementation.

The following documents have been posted on the Ancillary Services page under a new section called **Regulation Redesign Phase 2.**

[PJM.com > Markets & Operations > Ancillary Services >](https://www.pjm.com/Markets%20Operations/Ancillary%20Services/Regulation%20Redesign%20Phase%202)

Regulation Redesign Phase 2	Date
XML Schema XSD	5.19.2026
PJM External Interface Specification Guide PDF	5.19.2026
Regulation Phase 2 Open House - March 2026 PDF	4.2.2026
Regulation Cost-Based Offers Validation Template - Phase 2 XLS	4.22.2026
Sample Regulation Up and Regulation Down Test Signal Pattern XLS	3.3.2026
40-Minute Performance Score Template XLS	3.3.2026
Regulation Conversion Testing Checklist for Phase 2 PDF	2.18.2026
Regulation Redesign Phase 2 FAQs PDF	5.12.2026
Regulation Up & Down Effective Megawatt Requirement Definition PDF	1.27.2026

Inquiry	Email Contact
To request a Regulation test	RegulationTesting@pjm.com
Regulation telemetry – signal setup or conversion	PJMTelemetrySupport@pjm.com
Regulation redesign questions	RegulationDesign@pjm.com
Communication to PJM Member Relations	custsvc@pjm.com

Chair:

Jason Shoemaker, Jason.Shoemaker@pjm.com

Secretary:

Stefan Starkov, Stefan.Starkov@pjm.com

SME/Presenter:

Michael Olaleye, Michael.Olaleye@pjm.com

Regulation Redesign Phase 2 – Timeline and Testing Update

A green speech bubble containing a large black question mark, positioned above a blue speech bubble with three horizontal lines, suggesting a question or inquiry.

?

Member Hotline

(610) 666-8980

(866) 400-8980

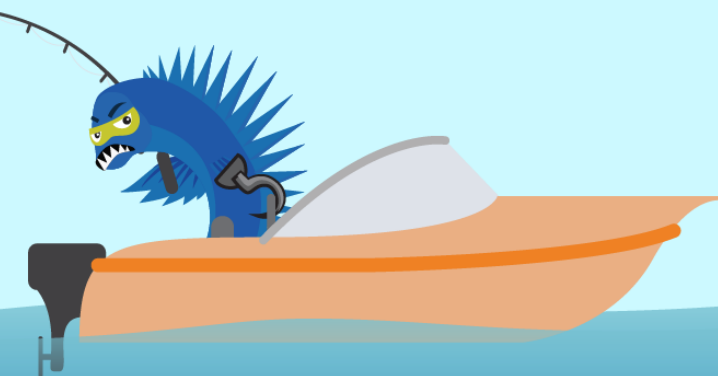
custsvc@pjm.com

**PROTECT THE
POWER GRID**

**THINK BEFORE
YOU CLICK!**



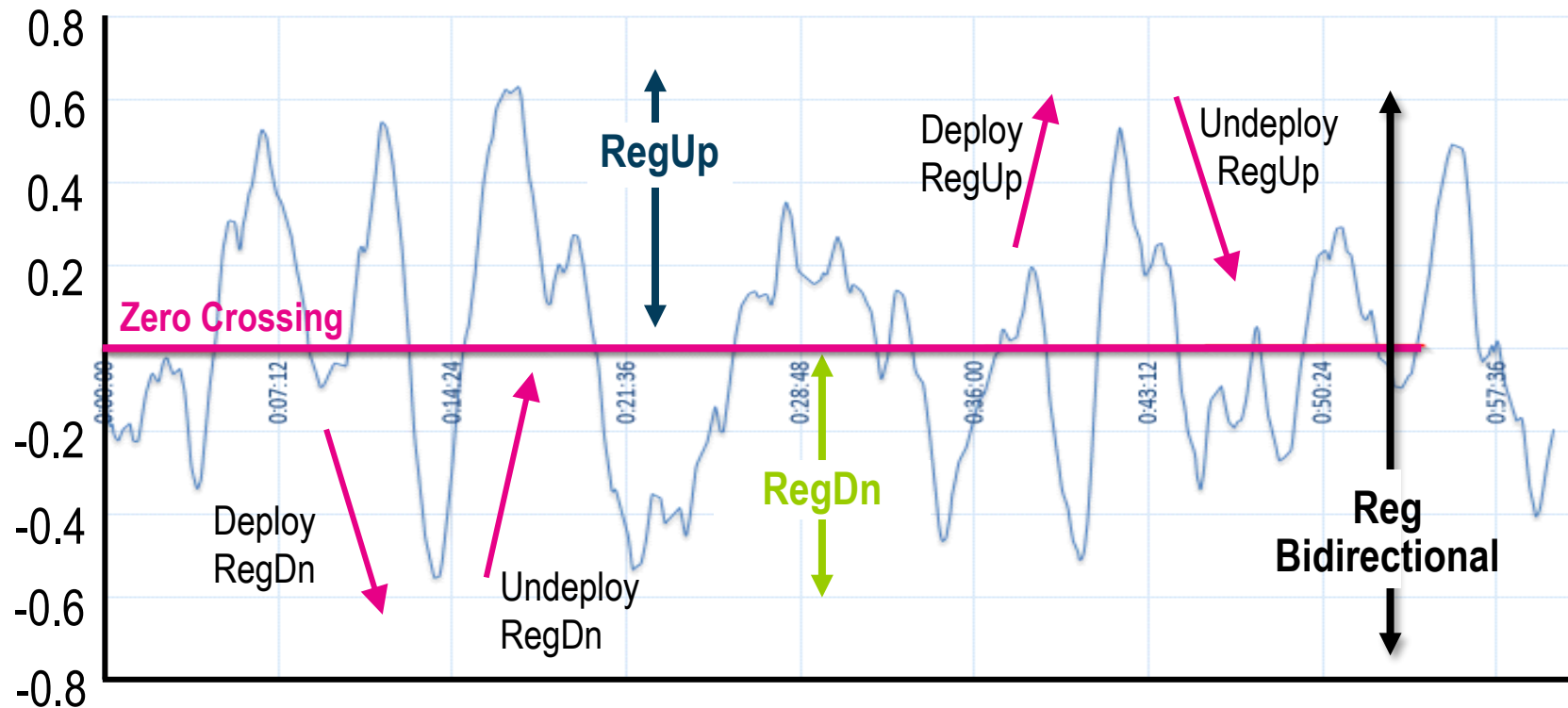
**BE ALERT TO
MALICIOUS PHISHING
EMAILS**



Report suspicious email activity to PJM.
Call (610) 666-2244 or email it_ops_ctr_shift@pjm.com

Appendix

Moving From a One-Signal Bidirectional Product to One-Signal RegUp and RegDn Products



- RegUp product operates above the zero crossing.
- RegDn product operates below the zero crossing.
- Resources will be able to follow the full signal (bidirectional) by being assigned RegUp and RegDn.
 - Only one product will be deployed at a time.

Moving From a One-Signal Bidirectional Product to One-Signal RegUp and RegDn Products **will split many of the design elements into two.**

Two Requirements:

One for RegUp and one for RegDn

Two Offers:

One for RegUp and one for RegDn

Two performance scores and mileages:

One for RegUp and one for RegDn

Two clearing prices:

One for RegUp and one for RegDn

Two settlement billings:

One for RegUp and one for RegDn

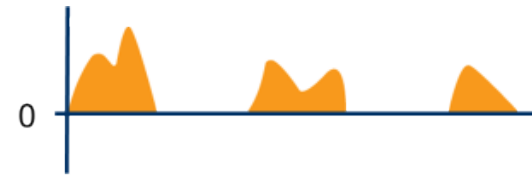
Phase 2 Regulation Signal/Products

AGC Signal



The output equals RegUp plus RegDn signal and sent to members as RegA.

RegUp



RegUp equals the regulation control signal multiplied by the TRegUp.

RegDn



RegDn equals the regulation control signal multiplied by the TRegDn.

Types of Awards

	ARegUp	AReg Dn	RegUp	RegDn	Reg
RegUp only	10	0	RC*10	RC*0	0 to 10
RegDn only	0	10	RC*0	RC*10	0 to -10
RegUp and RegDn	10	10	RC*10	RC*10	10 to -10

RC = Regulation controller signal

[PJM.com > Markets & Operations > Ancillary Services > Regulation Redesign Phase 2 FAQs \(PDF\)](#)

#	Design Components	Summary Description
1	Signals and Products	Bifurcate one signal bidirectional to two products, RegUp and RegDn , each with its own requirement, clearing price and settlement. Eligible resources will be able to offer, clear and follow either the RegUp, RegDn or both in a given market interval. Only one product is deployed at a time.
2	Requirement MW	Seasonal and hourly requirement MW separate for RegUp and RegDn may be asymmetric to better reflect operational needs, with consideration both to historic and future system conditions and with annual requirements MW updates.
3	Performance Metrics	Phase 1 changes plus performance score, mileage and bias-factor calculation separately for RegUp and RegDn.
4	Offer and Clearing Timing	Phase 1 changes plus offer MW, offer price and availability status separately for RegUp and RegDn. Offer MW will change from hourly granularity to 30 min. granularity.
5	Opportunity Cost Calculation	Separate resource's RegUp and RegDn opportunity cost for pricing. Settlements will calculate one intra-commitment opportunity cost that accounts for both RegUp and RegDn assignments on a resource. The settlements calculated intra-commitment opportunity cost will also account for the amount of energy produced while providing Regulation, referred to as "Regulation signal bias."
6	Settlement	Regulation billing for Reg Up and Reg Dn – Separate clearing price credits for RegUp and RegDn – Ability to submit Regulation bilateral transactions separately for RegUp and RegDn – Separate clearing price charges for RegUp and RegDn – A single lost opportunity lost credit accounting for both RegUp and RegDn assignments – A single lost opportunity cost charge