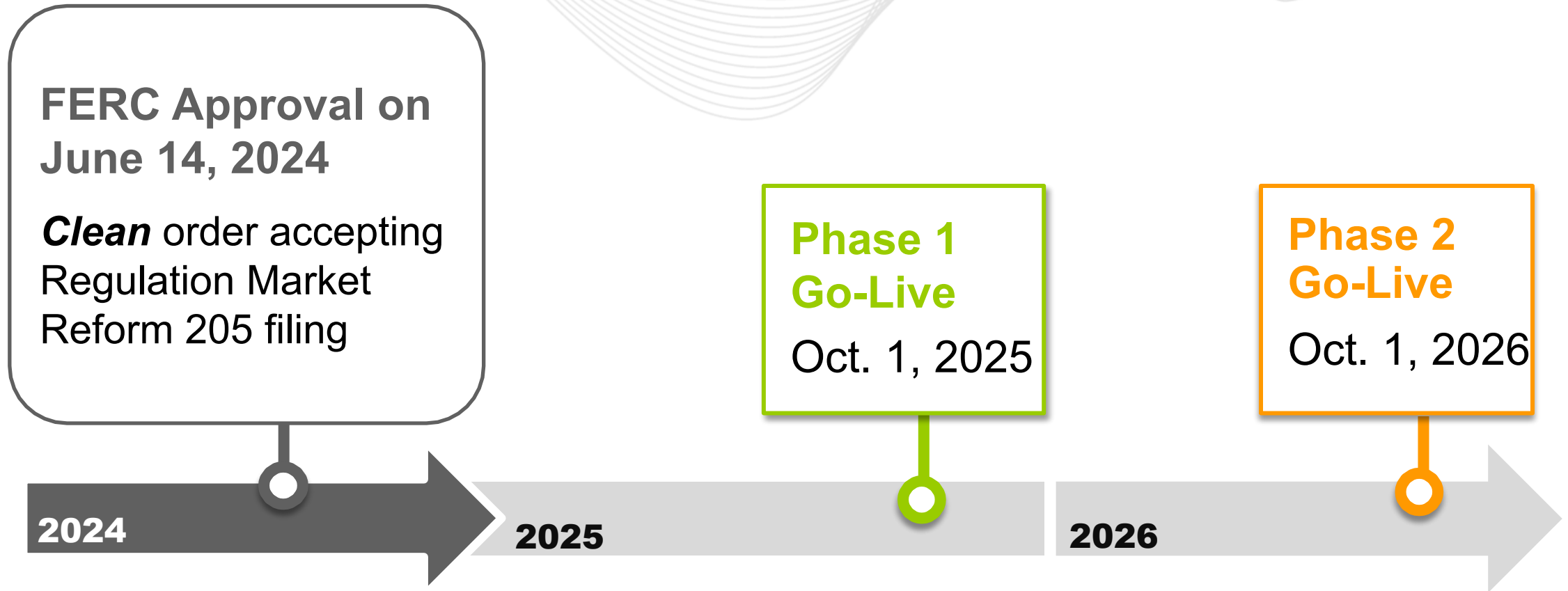




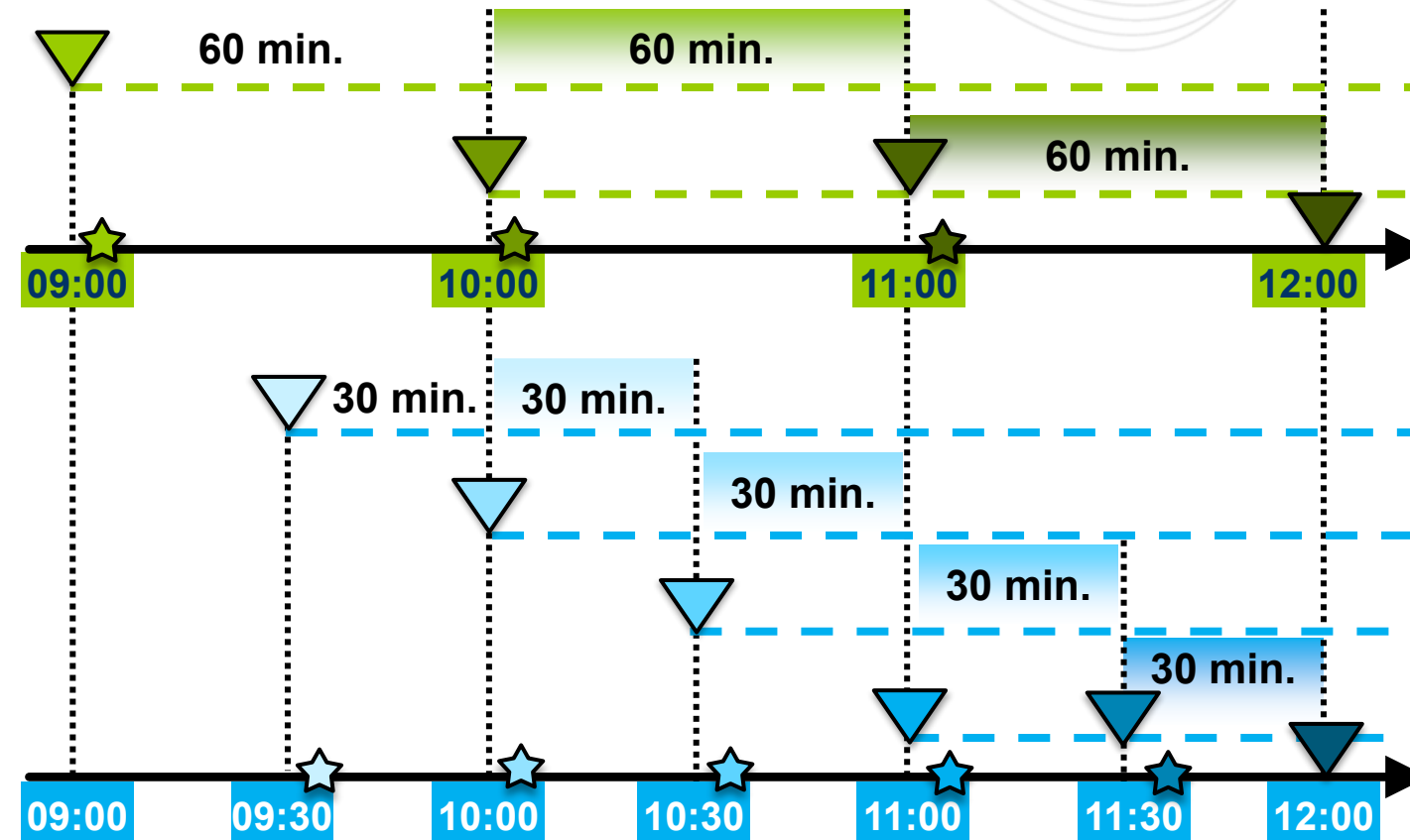
Markets Gateway and Data Miner 2 Changes Regulation Redesign Phase 1

May 5, 2025



1. Consolidates two signals (RegA and RegD) bi-directional to one signal (Reg or RegA) bi-directional will eliminate RegD Offers;
2. Removes the Variable Operation and Maintenance (VOM) component from the Regulation Offers except for the Regulation only (non-energy) resources;
3. Changes the Regulation Performance Offer to Mileage Offer
4. While Regulation clearing and commitment changes to every 30-minutes, the inflexible reserve clearing and commitment remain at every 60 minutes.

Move to a 30-Minute Clearing Time and Commitment Duration



STATUS QUO

- **60 minutes** prior to target time
- Looks ahead 60 minutes beyond target time

PHASE 1 & 2

- **30 minutes** prior to target time
- Looks ahead 30 minutes beyond target time

Legend

- ▽ Case execution time
- ☆ Case approval
- Service provided

Clock

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

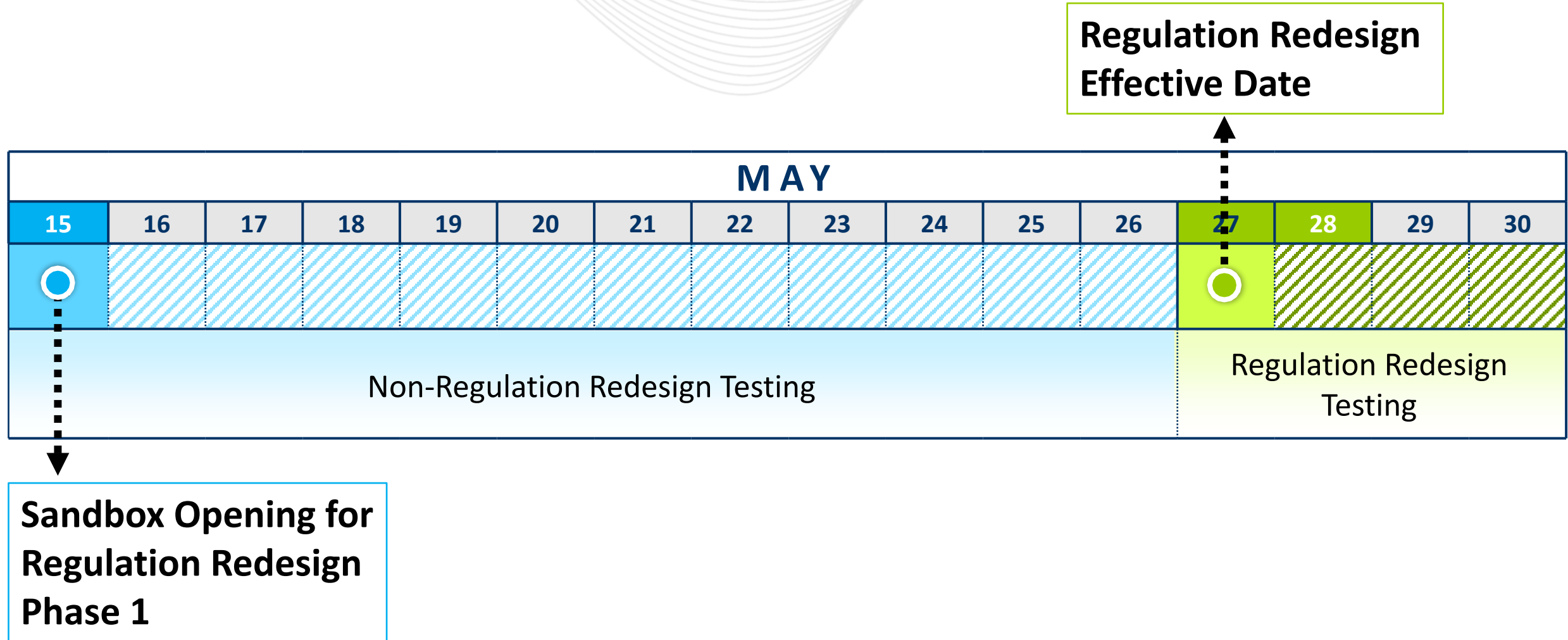
Offer Type	Markets Gateway Location	Deadline to Update
Daily Offer	Demand Response > Regulation Market > Offers	End of Rebid Period (14:15) the day before the Operating Day
	Generator > Regulation Market > Offers	
Hourly Updates	Demand Response > Regulation Markets > Updates	65 Minutes Prior to the Operating Hour*
	Generator > Regulation Market > Updates	
30 Min Availability (Regulation only)	Demand Response > Regulation Market > Availability Updates	35 Minutes Prior to the Operating Period
	Generator > Regulation Market > Availability Updates	

*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	Products 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**





Posted Technical Documents for Markets Gateway Changes

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

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

1. PJM External Interface Specification Guide
2. XSD Schema

#	Data Miner 2 Feed Location	Summary Description
1	Ancillary Services > Real-Time Ancillary Service Market Results	Update 'Regulation Performance Clearing Price' to 'Regulation Mileage Clearing Price', Remove 'REGD MW' column
2	Ancillary Services > Regulation Market Data	Change from hourly granularity to 30-minute, Remove RegD related columns, Update RegA related columns to just Reg
3	Ancillary Services > Regulation Prices	Update 'Performance Clearing Price' to 'Mileage Clearing Price', Remove Marginal Benefits Factor column
4	Ancillary Services > PJM Regulation Zone Preliminary Billing Data	Update 'Regulation Market Performance Clearing Price' to 'Regulation Market Mileage Clearing Price', Update 'Total PJM Regulation Market Performance Clearing Price Credits' to 'Total PJM Regulation Market Mileage Clearing Price Credits'
5	Locational Marginal Prices > Real-Time Ancillary Service Five-Minute LMPs	Update 'RTO Regulation Performance' in Ancillary Service column to 'RTO Regulation Mileage'
6	Locational Marginal Prices > Real-Time Ancillary Service Hourly LMPs	Update 'RTO Regulation Performance' in Ancillary Service column to 'RTO Regulation Mileage'

No.	Inquiry	Email Contact
1	To request a Regulation test	RegulationTesting@pjm.com
2	Regulation telemetry – signal setup or conversion	PJMTelemetrySupport@pjm.com
3	Regulation Redesign questions	RegulationDesign@pjm.com
4	Communication to PJM Member Relations	custsvc@pjm.com

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Regulation Redesign Phase 1 – Markets Gateway and Data Miner 2 Changes



Member Hotline

(610) 666 – 8980

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custsvc@pjm.com

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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



Appendix: Markets Gateway Screenshots



1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 26

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	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					



Demand Response > Regulation Market > Offers / Updates

Offers Updates Availability Updates

REG MW: 1000 MW Reg Min MW: 1000 MW Reg Max MW: 1000 MW

Location	Area	Offer MW	Capability Offer Price	Mileage Offer Price	Capability Offer Cost	Mileage Offer Cost	Reg Min. MW	Reg Max. MW	Min. Offer MW	Availability	Self Scheduled	Rolling Avg Performance Score
REG MW	PJM_RTO	1000	1000	1000	1000	1000	1000	1000	1000	Available	-	1000

Offers Updates Availability Updates

REG MW: 1000 MW Reg Min MW: 1000 MW Reg Max MW: 1000 MW

Reg MW: Reg Min MW: Reg Max MW:

Hour	Reg. Min. MW	Reg. Max. MW	Reg. MW	Reg. Capability Offer Price	Reg. Mileage Offer Price	Reg. Capability Offer Cost	Reg. Mileage Offer Cost	Reg. Min. Offer MW
1								
2								
3								
4								
5								
6								
7								
8								
9								



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 - 00:00:00

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					