

Net CONE Impacts on Black Start Revenues

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Members Committee
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| Acronym | Term & Definition |
|---------|--|
| BFR | Base Formula Rate is a formula used for Black Start resource compensation for resources without capital cost. |
| BSSC | Black Start Service Cost is a component of the Base Formula Rate. There are fixed Black Start Service Cost and variable Black Start Service Cost components in the Base Formula Rate. |
| CONE | Cost of New Entry is the calculated cost of building a new resource as utilized in the PJM capacity market. |
| CRF | Capital Recovery Factor is a factor used in the Capital Recovery Rate used for Black Start resource compensation for resources with capital costs. |
| RFP | A Request For Proposal is the method by which Black Start resources are selected in PJM to provide Black Start Service. |

- ***Annual Black Start Service Revenue Requirement =***

$$\{\text{Fixed BSSC} + \text{Variable BSSC} + \text{Training Costs} + \text{Fuel Storage Costs}\} * (1 + Z)$$

Where:

- Fixed BSSC = Fixed Black Start Service Cost
- Variable BSSC = Variable Black Start Service Costs (approved O&M Costs)
- Training Costs = \$3,750 per plant per delivery year (50 staff hours per plant per year multiplied by \$75 per staff hour)
- Fuel Storage Costs are the costs defined in the tariff for oil units with onsite storage
- Z = Incentive Factor that will be one of the following:
 - 10% for Non-Fuel Assured Black Start Units
 - 20% for Fuel Assured Black Start Units
 - Zero (0) for Black Start Units that are recovering new or additional Black Start capital costs or Fuel Assurance capital costs under section 6 of Schedule 6A

- Fixed Black Start Service Costs (FBSSC) are calculated using Net CONE in two (2) Black Start Revenue rates:

- Base Formula

$$FBSSC = Net\ CONE * Black\ Start\ Unit\ Capacity * X$$

- Net CONE is the then current ICAP net Cost of New Entry (\$/MW day) for the CONE Area where the Black Start Unit is located
- Black Start Unit Capacity is resource's installed capacity*
- X = 0.01 for hydro; X = 0.02 for CT and Fuel Assured Black Start

- Capital Cost Recovery – NERC CIP Rate

$$FBSSC = Net\ CONE * Black\ Start\ NERC\ CIP\ Unit\ Capacity * X$$

* Additional details in OATT Sched 6A Paragraph 18

- Remove Net CONE from the FBSSC formula and replace with a “Fixed Rate”

$$FBSSC = \text{Fixed Rate} * \text{Black Start Unit Capacity} * X$$

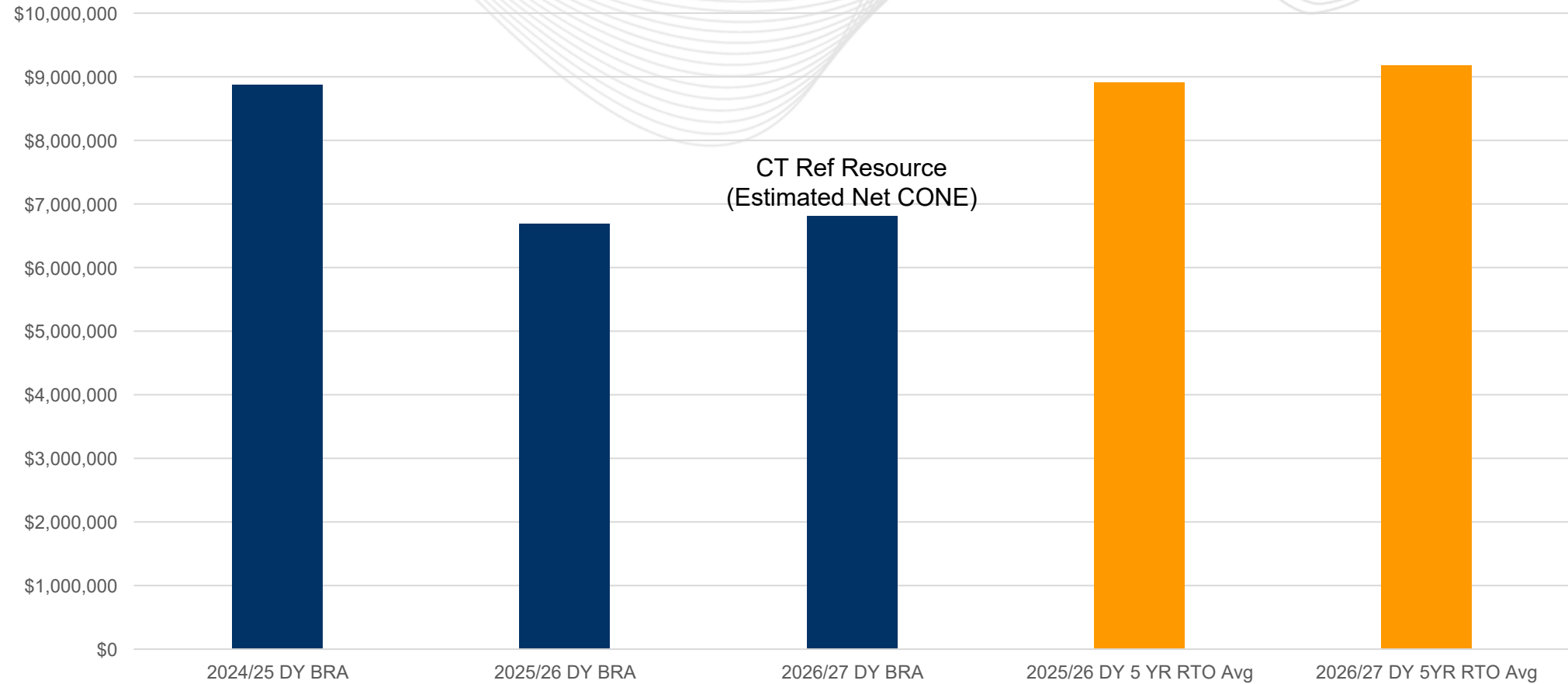
- “Fixed Rate” for 25/26 delivery year will be \$272.62/MW day
 - Calculated based on 5 year average of RTO Net CONE
- Fixed Rate will be adjusted each year by the Handy Whitman index and posted on pjm.com by **March 31** each year.
 - The updated Fixed Rate will be utilized in the Black Start annual revenue review process

- Set fixed rate value used in BS calculation at average of last 5 years of RTO average Net CONE (Calculated at \$272.62 \$/MW Day)
- Use RTO Net CONE values prior to capacity market changes
 - Uses data from 2020-2024
 - Maintains BS revenue at approximately 2024/2025 levels

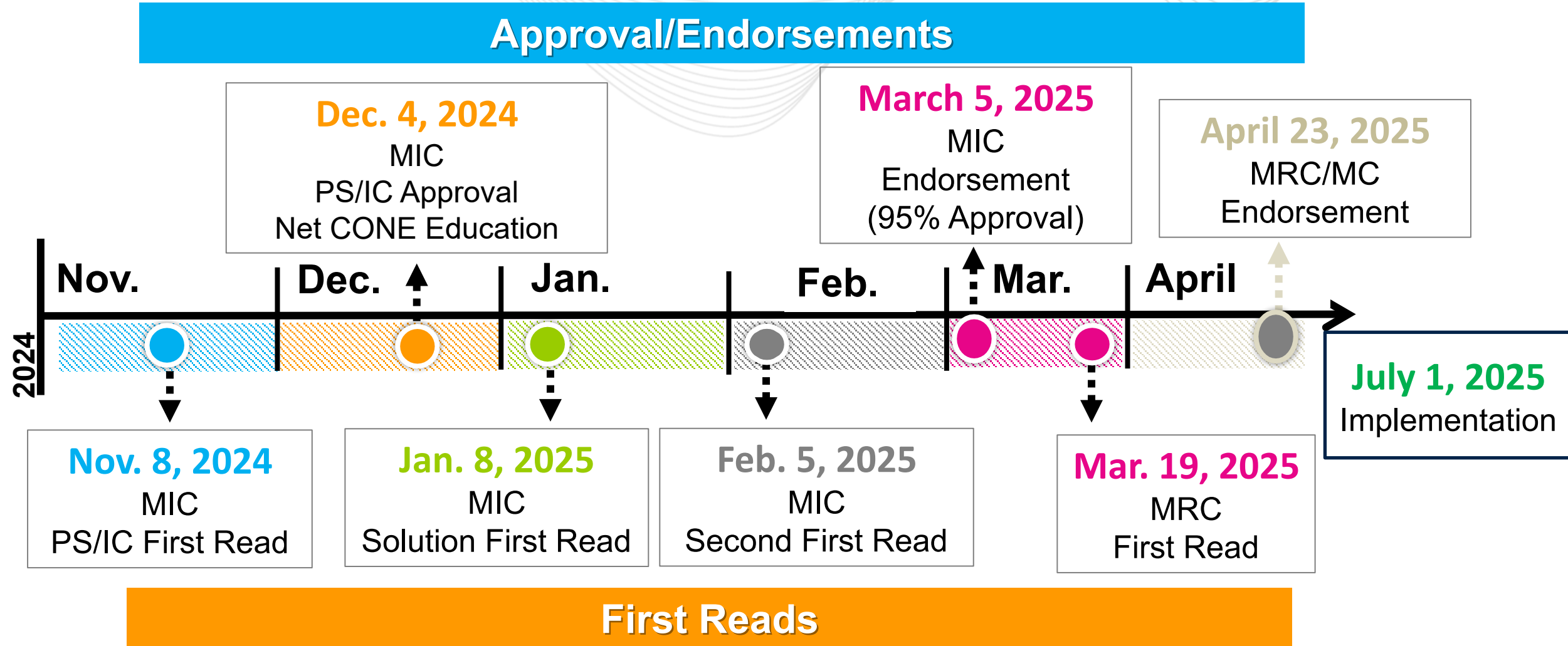
| | | 2025/26 (BRA) – Status Quo | | 2026/27 (BRA) – (Est. Net CONE using CT Reference) | | 2025/26 (RTO 5 Year Avg) \$272.62/MW-Day | | 26/27 (RTO 5 Year Avg) \$280.80/MW-Day (escalated 3%) | |
|--------------|-----------------------|----------------------------|-----------------------|--|-----------------------|---|-----------------------|---|-----------------------|
| CONE Area | 2024/25 | Revenue (Fixed BSSC) | % Change from 2024 | Revenue (Fixed BSSC) | % Change from 2024 | Revenue (Fixed BSSC) | % Change from 2024 | Revenue (Fixed BSSC) | % Change from 2024 |
| 1 | \$3,172,733.26 | \$2,626,193.33 | -17.23% | \$2,673,351.25 | -15.74% | \$2,915,236.25 | -8.12% | \$3,002,693.33 | -5.36% |
| 2 | \$158,028.80 | \$67,750.30 | -57.13% | \$73,288.35 | -53.62% | \$173,738.01 | 9.94% | \$178,950.15 | 13.24% |
| 3 & 5 | \$4,434,151.58 | \$3,301,792.93 | -25.54% | \$3,371,937.16 | -23.96% | \$4,672,020.08 | 5.36% | \$4,812,180.68 | 8.53% |
| 4 | \$1,112,340.81 | \$691,456.23 | -37.84% | \$695,815.56 | -37.45% | \$1,142,730.42 | 2.73% | \$1,177,012.33 | 5.81% |
| TOTAL | \$8,877,254.45 | \$6,687,192.79 | -24.67% | \$6,814,392.32 | -23.24% | \$8,903,724.75 | 0.30% | \$9,170,836.49 | 3.31% |

Note: Zone 3 & 5 combined due to changes in CONE area in 25/26 DY

Black Start Service Annual Fixed Costs (BFR Rate)



- Breaks tie to Net CONE for future years
 - Reduces volatility and uncertainty in Base Formula Rate
- Ends geographic disparity in revenue for similar Black Start service
- Preserves incentive for existing Black Start fleet on Base Formula Rate to continue to provide service
 - Reduces risk of Black Start shortage and reliability issues
 - Reduces risk of needing significant capital investment to procure new Black Start resources
- Transparent and predictable rate
- Easy to implement
 - Minimal changes to OATT Schedule 6A, Section 18 (No Manual Updates)



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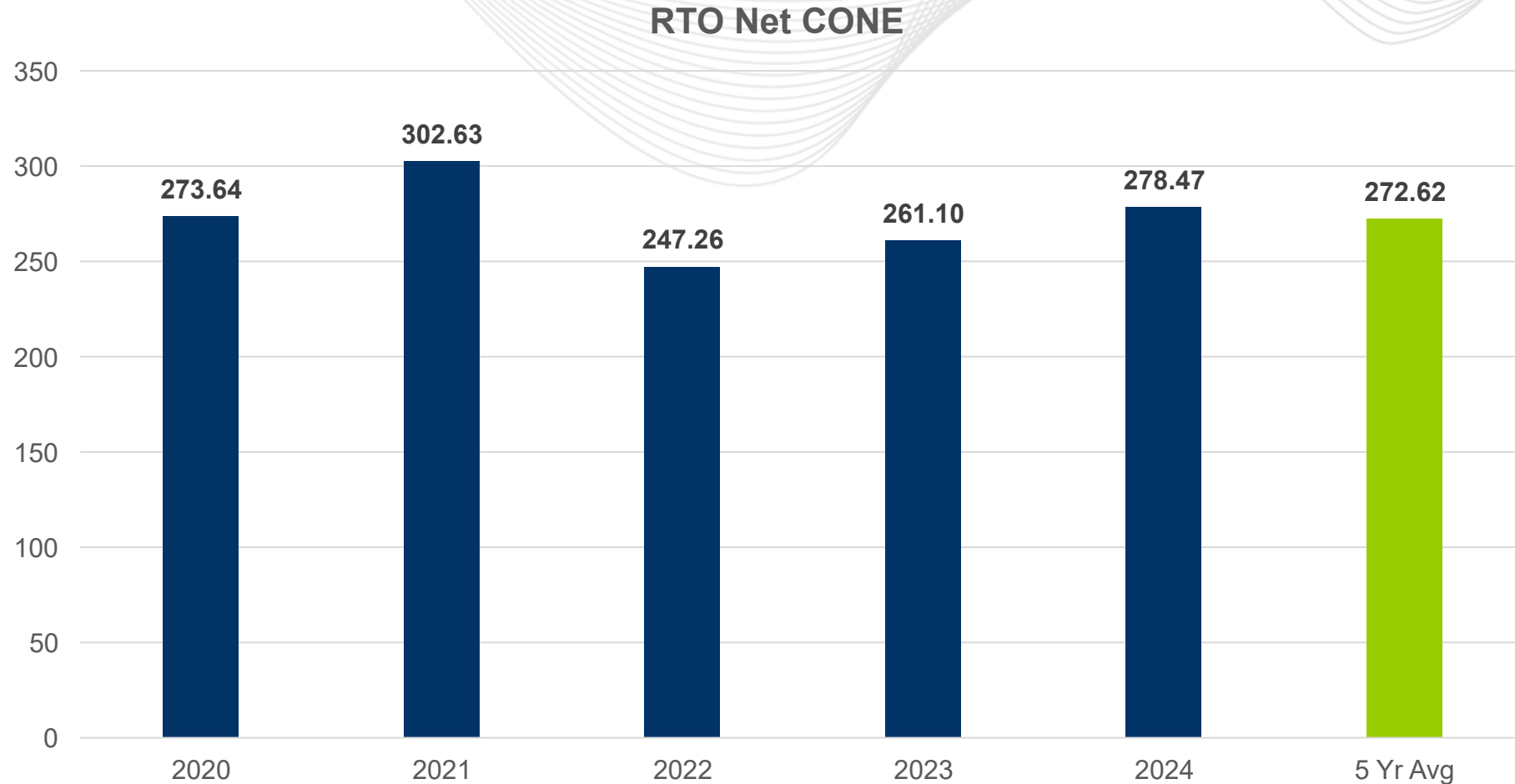


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Five (5) Year Average = 272.62

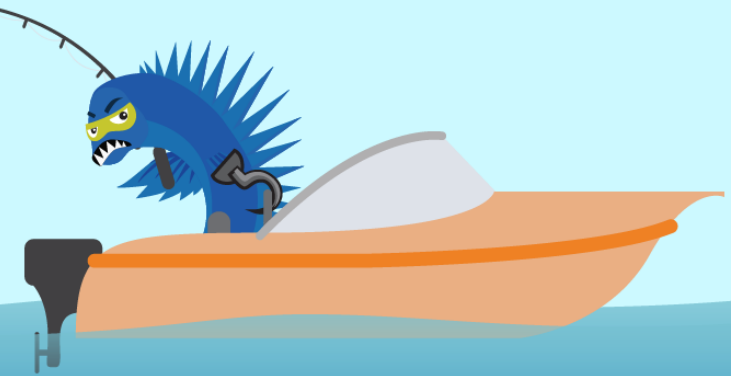
<https://www.pjm.com/markets-and-operations/rpm>

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