

# Net CONE Impacts on Black Start Revenues

Glen Boyle  
Performance Compliance Dept.

Markets and Reliability Committee  
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| Acronym | Term & Definition  |
|---------|--|
| BFR     | <b>Base Formula Rate</b> is a formula used for Black Start resource compensation for resources without capital cost.   |
| BSSC    | <b>Black Start Service Cost</b> 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    | <b>Cost of New Entry</b> is the calculated cost of building a new resource as utilized in the PJM capacity market.   |
| CRF     | <b>Capital Recovery Factor</b> is a factor used in the Capital Recovery Rate used for Black Start resource compensation for resources with capital costs.                                    |
| RFP     | A <b>Request For Proposal</b> 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”

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

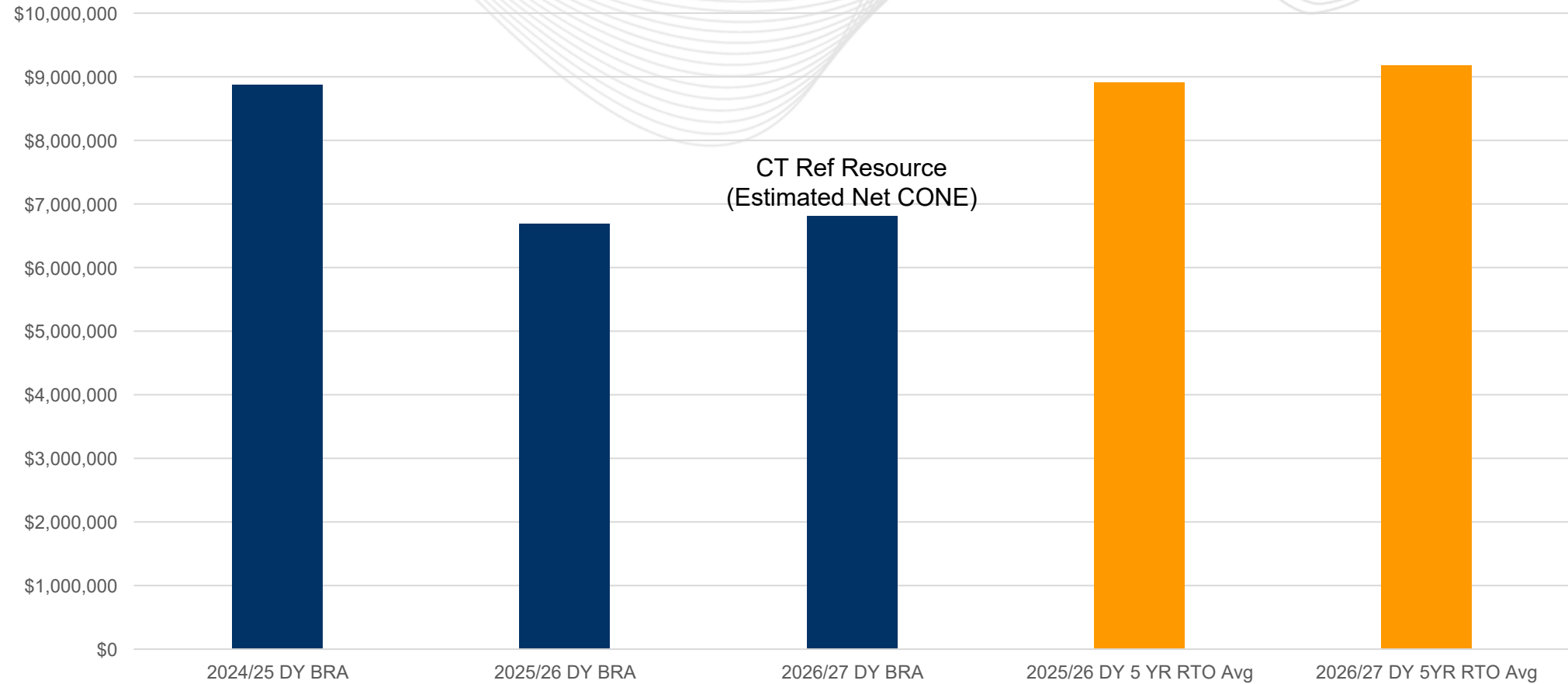
- “Fixed Rate” for 25/26 delivery year will be \$272.62/MW day
  - Calculated based on 5 year average of RTO Net CONE
- Fixed Rate will be adjusted each year by the Handy Whitman index and posted on pjm.com by **March 31** each year.
  - The updated Fixed Rate will be utilized in the Black Start annual 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%              |
| <b>TOTAL</b> | <b>\$8,877,254.45</b> | <b>\$6,687,192.79</b>      | <b>-24.67%</b>     | <b>\$6,814,392.32</b>                              | <b>-23.24%</b>     | <b>\$8,903,724.75</b>                    | <b>0.30%</b>       | <b>\$9,170,836.49</b>                                 | <b>3.31%</b>       |

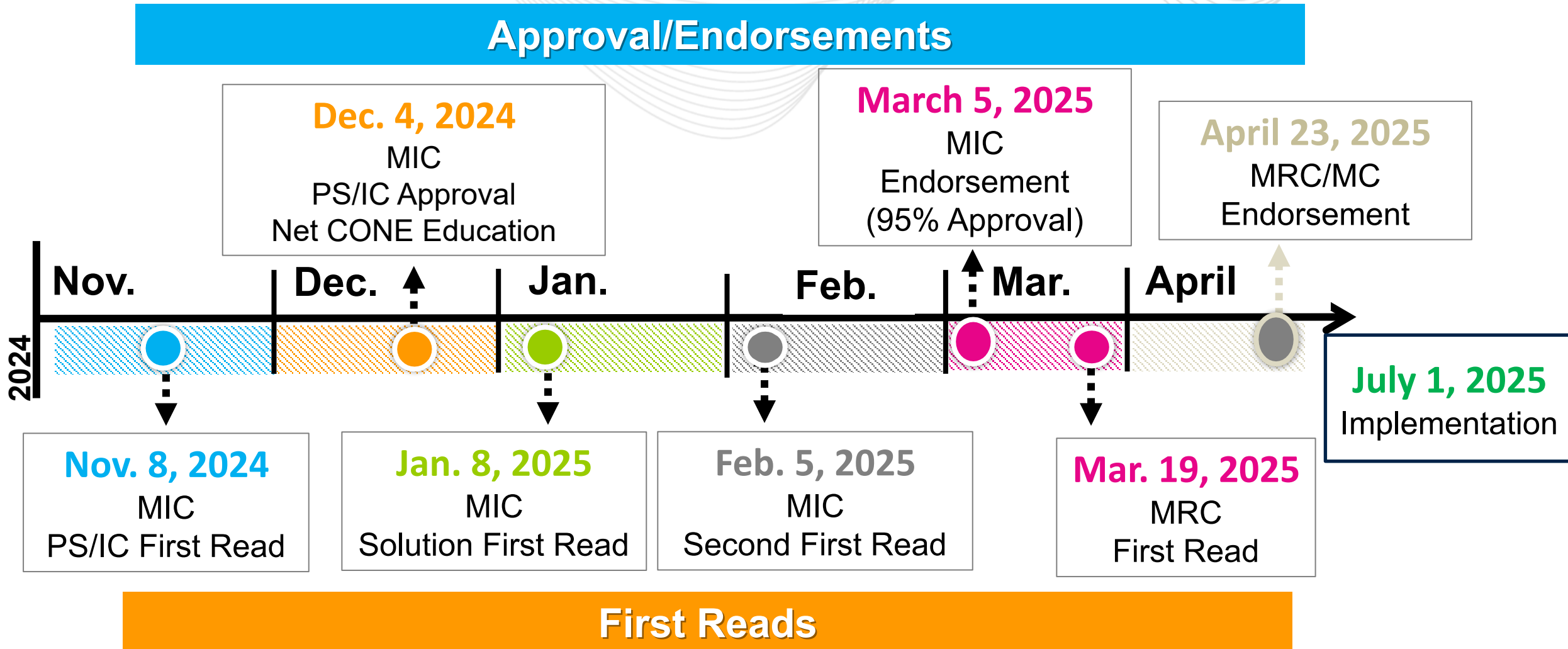
Note: Zone 3 & 5 combined due to changes in CONE area in 25/26 DY

**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)





Facilitator:

Lisa Drauschak,  
[Lisa.Drauschak@pjm.com](mailto:Lisa.Drauschak@pjm.com)

Secretary:

Dave Anders,  
[David.Anders@pjm.com](mailto:David.Anders@pjm.com)

SME/Presenter:

Glen Boyle,  
[glen.boyle@pjm.com](mailto:glen.boyle@pjm.com)

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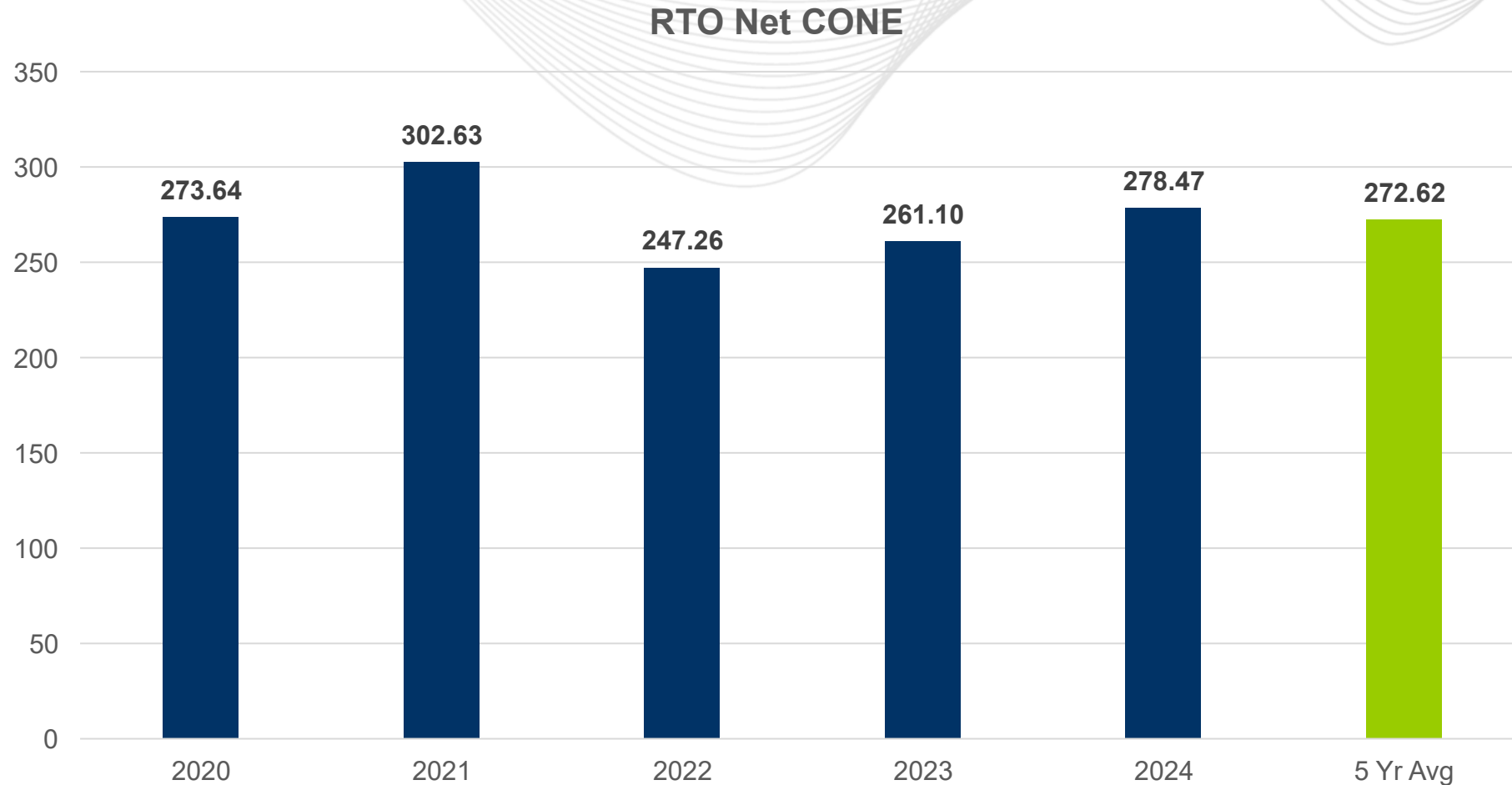


Member Hotline

(610) 666 – 8980

(866) 400 – 8980

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



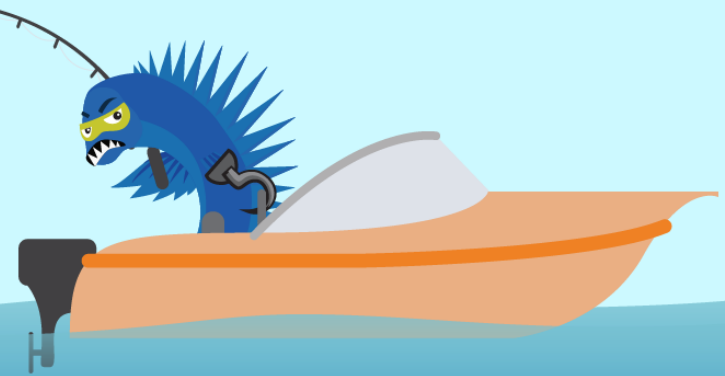
**Five (5) Year Average = 272.62**

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

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