

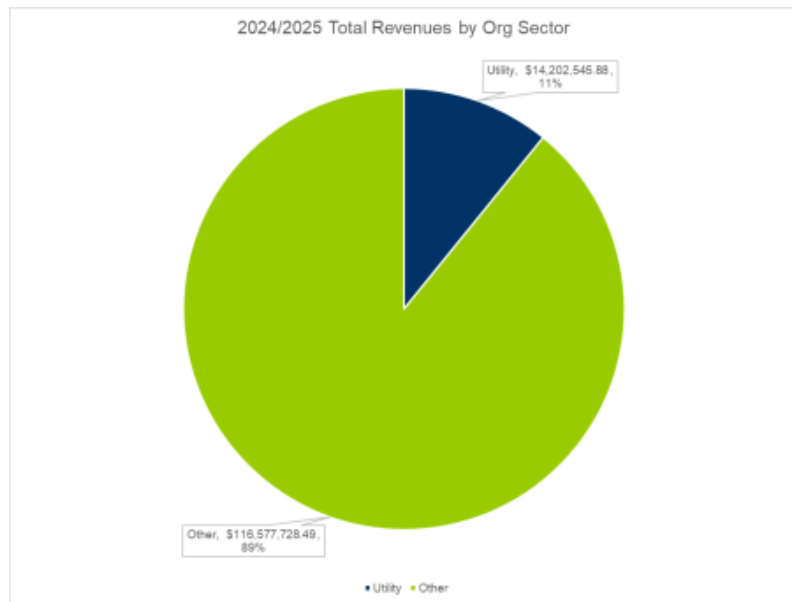
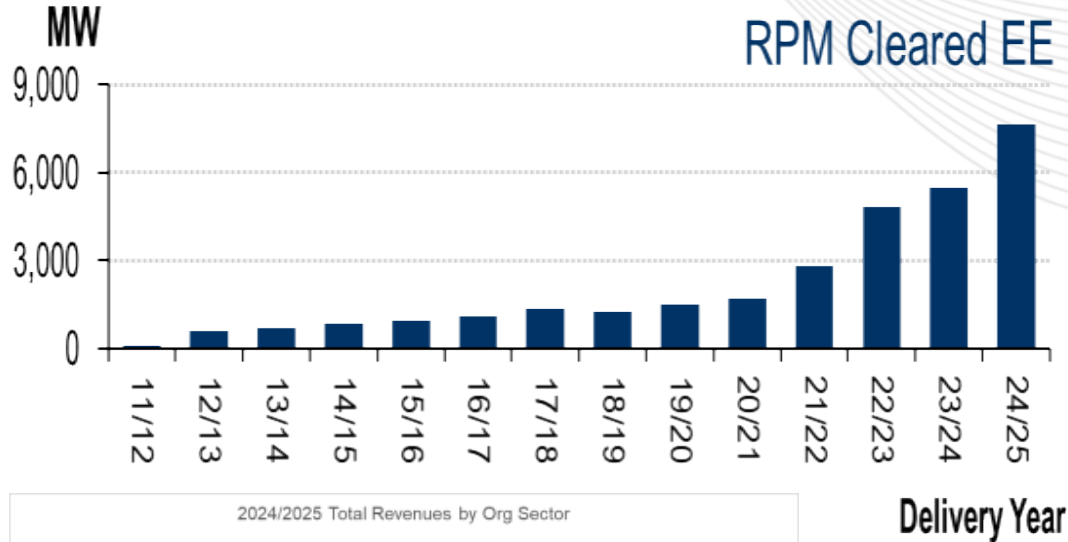


PJM Proposal for Energy Efficiency Resources

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Markets & Reliability Committee

July 24, 2024

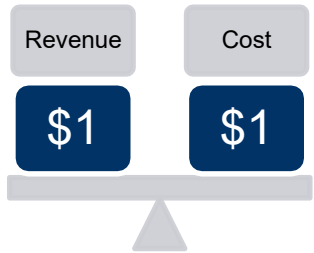


- Rapid growth in Energy Efficiency
 - ~\$131 million in 24/25, may easily double
- EE rules (other than the addback) have not be reviewed since '09
- Issues with Measurement and verification (“M&V”) process

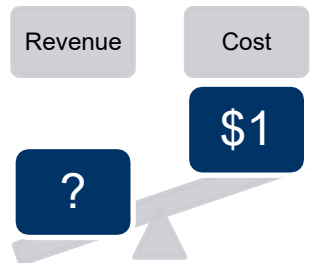
- Energy Efficiency is a “good thing”
- Energy Efficiency in the capacity market construct may be considered “uplift” to load
 - The aggregate load forecast has been lowered to include the future impact of energy efficiency
 - \$1 paid to EE Provider will result in \$1 increase to load
 - Utility EE Providers typically use revenue to reduce cost to load
 - Non-utility EE Provider – not clear if any significant revenue goes to consumer
- There is no evidence that the amount of EE that is purchased and installed will change if EE Providers no longer receive money from load through the wholesale capacity market construct

Impact to Load
(simplified example)

Utility Program



Non-Utility Program



Since the load forecast was reduced, load receives the benefit of lower costs

EE Provider must cause EE to be implemented

- Energy Efficiency in the capacity market should only include EE that is purchased and installed because the EE revenue received from the wholesale market caused the EE to be purchased and installed.
 - If the EE Provider does not cause the EE to be purchased and installed then it does not qualify
 - An EE Provider should not be permitted to simply claim EE that naturally occurs (e.g.: purchase receipts from store or contractor)
- This is the similar concept used for retail energy efficiency programs
 - Gross savings (all EE savings including those that occur naturally) vs Net savings (EE savings as a result of utility program)

Why should consumers pay for something that would have occurred anyway ?

- Market research study
 - Compare EE adoption rates for control group (no EE Provider incentive) to EE Provider customers with an incentive.
- Payback analysis combined with customer survey.
- Capacity revenue results in utility program being approved.
 - if a regulatory test is the hurdle and the capacity revenue results in an approved program then it would qualify.
- Leverage other techniques currently used to differentiate gross vs net EE savings in the retail market.
- All studies must comply with M18B statistical provisions.

Focused EE capacity market participation

- RPM participation
 - [status quo] Continue current “addback” process to avoid reliability and double counting issues. Continue to allocate cost to load to pay EE Providers.
 - Recognize EE for 1 year (installment period = DY-1)
 - Help account for possible 1 year delay in Peak Load Contribution (PLC) and associated LSE cost reduction.
 - Annual (avoid issues with summer EE and winter resource combination)
 - May impacts clearing prices
 - Winter resource included in addback (annual market)
 - Focus participation on BRA only
 - Capacity for load is procured based on initial forecast
 - Avoid more add backs for a DY (PJM load forecast used for IA may be lower but PJM will be required to buy EE and use the add back)
- FRR participation
 - Eliminate participation since it has never been used and amount is simply added back the FRR obligation (no reason to include in the FRR plan)
 - Note: EE may continue to participate in FRR service area and be included in RPM.

- Accurate savings based on actual **“measurement”** and **“verification”**
 - Avoid subjective process and the potential for self selection bias (“cherry picking”)
- Leverage existing studies where possible to help manage cost
- Ensure all calculations and associated baseline are transparent and can be clearly mapped back to the source.
- Simplify the process where possible

What gets measured, gets done.

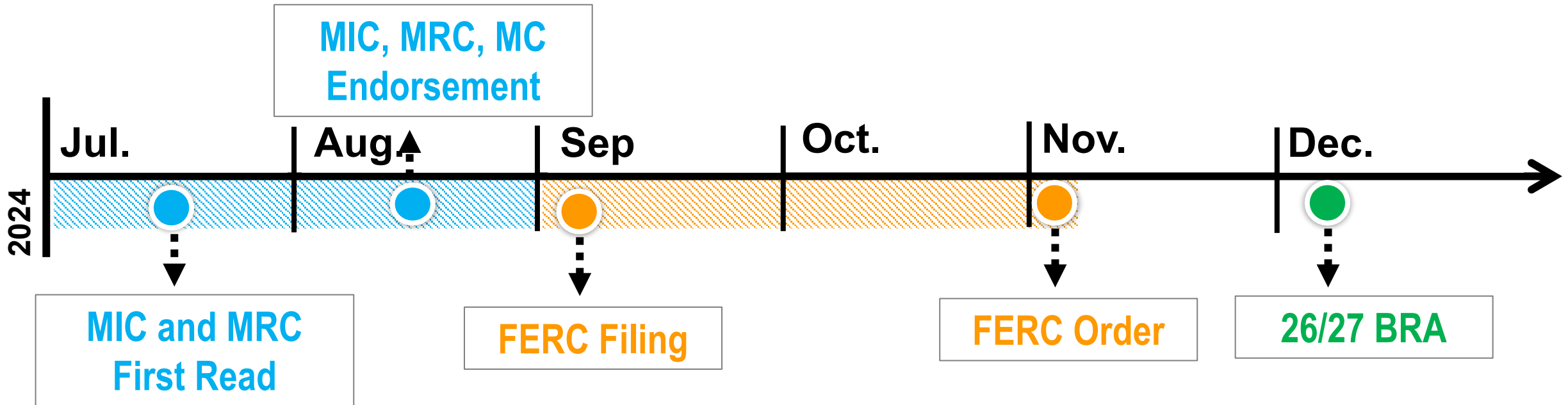
- M&V Plans are submitted prior to auction based on estimated EE savings (nominated ICAP)
- Post Installation M&V Reports (“PIMV” Report) are submitted prior to DY and determine actual EE savings (nominated ICAP)
- EE Savings per measure = (Baseline kW – EE measure kW) * operational factors
 - Based on average savings during defined performance hours
- EE Savings = EE Savings per measure * # verified installations
- Baselines
 - Current – usage based on what is currently installed. This is used for retrofit when current equipment is still fully operational. Current baseline is not based on a study.
 - Standard – usage based on most stringent standard or practice in place at the time of the installation

- M&V Plan is a plan based on estimates.
 - Approve methodology but not savings amount.
- PIMV report determines the actual nominated ICAP which is based on actual **verified installations**, codes/standard practice prior to the installment period and operational factors based on studies that meet the requirements below.
 - Approval of the M&V plan does not mean approval of PIMV report.
- Studies used to determine operational data (coincidence factors or any other factor used to determine savings when comparing the baseline to the installed equipment) shall be based on measured information within 5 years of the start of the installment period unless otherwise approved by PJM. All studies used must meet the M18B statistical accuracy provisions.
 - Clarify Option 1 – stipulated factors refer to operational data described above. Stipulated factors may not be used to verify installations

Actual measurement and verification is required, can't just rely on "stipulated factors"

- Installations (including upstream, midstream and downstream)
 - must be verified at each end use customer site to ensure the equipment was installed and operational in the associated PJM LDA. EE Provider to provide end use customer specific information (or other information as approved by PJM) for all installations if requested by PJM. Upstream and midstream must be able to demonstrate that savings were not claimed by downstream EE Provider.
- Officer Certification required for PIMV report

- EE no longer eligible to receive bonus payments and no longer subject to PAI penalty.
 - EE does not do anything different during a PAI (there is no “performance”)
- Bilateral Transactions - status quo but clean up language so it is clear EE Provider may only use unit specific transaction for EE sales (to ensure EE can only be used to replace EE commitments)
- Provide additional time for review and approve plans/reports
 - M&V plans due 50 days prior to auction instead of 30, PJM to notify in 25 days instead of 10, EE Provider to correct and resubmit 15 days prior
 - This provision become effective with 27/28 BRA.
 - PIMV reports due 30 day prior to DY (instead of 15).
- Remove EE NEPA provision
- Tariff and manual changes implemented for 26/27 BRA and 26/27 PIMV report (applicable to all qualified installation periods for such auction)



Manual language will go through stakeholder process after FERC approval.

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<ul style="list-style-type: none">• EE is uplift - the load forecast already reduced for the impact of EE.	<ul style="list-style-type: none">• EE should only participate if the EE Provider caused the EE to be purchased and installed.	<ul style="list-style-type: none">• EE needs to be measured and verified and not just based on “stipulated values”.

\$1 paid to EE Provider will result is \$1 additional cost to load

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Evaluation of Energy Efficiency Resources



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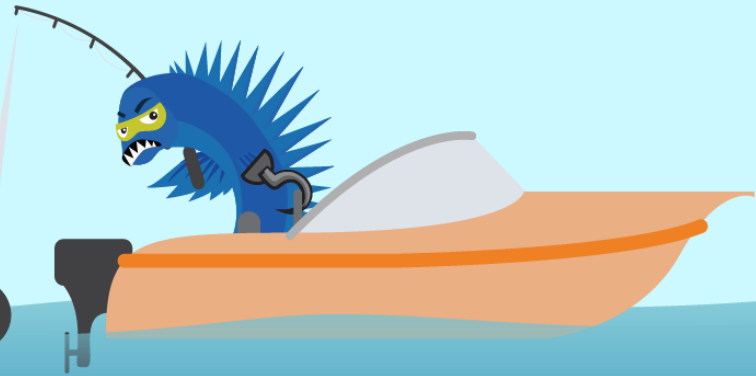
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POWER GRID**

**THINK BEFORE
YOU CLICK!**



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