



Evaluation of Energy Efficiency Resources

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Markets & Reliability Committee

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- Energy Efficiency (“EE”) has grown rapidly from 78 MW in 2011/12 to 7,669 MW of capacity for 2024/25 DY.
 - number of installment periods is down because of compressed auction schedule
- EE rules have not had a significant review since it’s inception into the market over 15 years ago (M18B adopted ~2009)
 - EE measurement and verification is critical for the determination of the amount of qualified & delivered EE
- Problem Statement and Issue Charge were initiated at the MIC on 11/1/23
- Opportunity for Manual Changes to firm up M&V implementation details prior to 25/26 BRA to allow a transition for EE Providers

- Clarify use of “Current” vs “Standard” Baselines
 - Current baseline - load of existing equipment
 - Standard baseline - load of equipment from federal/state standards
 - Current baseline only eligible for retrofit/replacement where existing measure is still operational and EE Provider can provide evidence that the project would not have occurred absent participation in the wholesale market
- Ensure use of studies are reasonably current and relevant to location of the specific EE that was installed
- If Current baseline is eligible then use state/regional technical resource manual as default
 - If this does not exist or is not current then use baseline based on meter data from installations (revised Option B)
 - Clarify alternatives are still eligible but must be more accurate than default
 - If Option A is not eligible then a proposed alternative must be more accurate than Option B

- Installations
 - Evidence that the Energy Efficiency Provider possesses the exclusive authority from the end use customer to aggregate and offer the end-use customers' Energy Efficiency benefit associated with the installed equipment Officer Certification
 - If requested by PJM, the Energy Efficiency Provider must be able to provide end-use customer information for each installation
 - Any EE claimed in LDA that is based on the sale or delivery of the EE to the customer must account for the possibility that it was installed outside of such LDA and not installed within the LDA in which it is claimed
 - Officer Certification for the M&V Plan and PIMV report

- Clean up items
 - Include page numbers
 - Make language consistent 7a.1 “within 3 years”, state and regional
 - fix from 8.1a for 8a.1
 - Ensure state or regional are spelled out
 - Included “applicable” where necessary
- 7a – Clarify baseline selection logic and use an alternative baseline.
- 7a.2 – Clarify that study may be performed across LDAs to comply with existing statistical sampling. Must still meet 90/10 accuracy standard



Clarifications to proposed red line changes after the first read

- 8a.1 – deleted “updated” to avoid confusion.
- Included example that baseline study may be done after the M&V plan and included in the Post Installation M&V report
- Clean up Post Installation M&V Report requirements
 - EE Provider to provide end use customer information upon request by PJM
- Leakage must be accurately reflected in all LDAs
- Added provision in Officer Certification to support use of current baseline (EE purchase and installation caused by participation in the wholesale market)

- Timeline
- Energy Efficiency Measurement and Verification concepts
- Baseline example
- Tariff reference
- Q&A

Committee	Work	Nov/23	Dec/23	Jan/24	Feb/24	Mar/24	Apr/24	May/24	Jun/24	Jul/24	Aug/24	Sep/24	Oct/24	Nov/24	Dec/24	
MIC	determine tariff and associated manual changes (focused on broader changes)															
MRC																
MC															26/27 BRA	
MRC	manual only changes (focused on implementation of M&V)								25/26 BRA							

Ensure implementation rules are in place prior to the auctions to allow for any transition issues

- EE is only eligible if measure installed is more efficient than the existing standards
 - **This does not change with the proposed revisions.**
- 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
 - Based on average savings during defined performance hours
 - Current baseline – based on equipment currently installed
 - Standard baseline – based on existing federal or state standards
- EE Savings = EE Savings per measure * # verified installations

- Retrofit a standard light bulb – 760 Lumen in the BGE Area
- Summer Coincident Peak kW Savings
 - $\Delta kW = ((\text{WattsBase} - \text{WattsEE}) / 1000) * \text{ISR} * \text{WHFd} * \text{CF}$
 - Current Baseline
 - $\Delta kW_{PJM} = ((29 - 8) / 1,000) * 0.965 * 1.17 * 0.084 = 0.002 \text{ kW}$
 - Standard Baseline
 - $\Delta kW_{PJM} = ((16.9 - 8) / 1,000) * 0.965 * 1.17 * 0.084 = 0.00084 \text{ kW}$
- Winter has similar difference between the two baselines

More details were provided during education phase at MIC

- For every Energy Efficiency Resource clearing an RPM Auction for a Delivery Year, the Capacity Market Seller shall submit to the Office of the Interconnection, by no later than the start of such Delivery Year, an updated project status and detailed measurement and verification data meeting the standards for precision and accuracy set forth in the PJM Manuals. The final value of the Energy Efficiency Resource during such Delivery Year shall be as determined by the Office of the Interconnection based on the submitted data.
- The measurement and verification plan shall describe the methods and procedures, consistent with the PJM Manuals, for determining the amount of the load reduction and confirming that such reduction is achieved. The Office of the Interconnection shall determine, upon review of such notice, the Nominated Energy Efficiency Value that may be offered in the Reliability Pricing Model Auction."

- How does an alternative baseline work?
 - If eligible for Option A then alternative must be more accurate than A
 - If not eligible for Option A then alternative must be more accurate than Option B
- Can I use a sample broader than an LDA when I do my study?
 - Yes, may use random stratified sample but must meet 90/10 accuracy.
- How can I demonstrate EE was purchased and installed because of participation in the wholesale capacity market in order to use the “current” baseline?
 - Officer certification
 - Payback analysis (number of years to recoup EE investment through retail bill savings significantly reduced by EE Provider incentive to the customer for the investment).
 - Other

These are medium term proposed changes – MIC will continue discussion on broader enhancement

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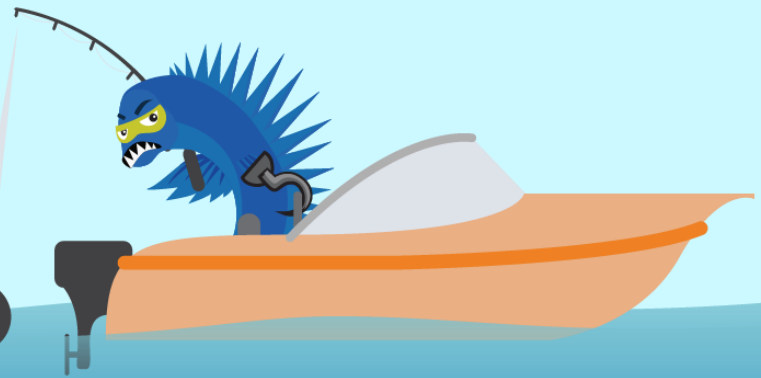
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