

M18 and M18B Revisions to Accommodate EE Resource Participation in RPM when EE is reflected in the Peak Load Forecast

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1.20A Energy Efficiency Resource

Energy Efficiency Resource shall mean a project, including installation of more efficient devices or equipment or implementation of more efficient processes or systems, meeting the requirements of Schedule 6 of this Agreement and exceeding then-current building codes, appliance standards, or other relevant standards, designed to achieve a continuous (during the periods described in Schedule 6 and the PJM Manuals) reduction in electric energy consumption **that is not reflected in the peak load forecast prepared for the Delivery Year for which the Energy Efficiency Resource is proposed**, and that is fully implemented at all times during such Delivery Year, without any requirement of notice, dispatch, or operator intervention. Annual Energy Efficiency Resources and Base Capacity Energy Efficiency Resources are types of Energy Efficiency Resources.

- Highlighted language of EE Resource definition prevents adverse reliability impact of double counting energy efficiency measures as a resource in an RPM auction (or FRR Capacity Plan) and again as a load forecast reduction
- EE Resource participation in RPM auctions (or FRR capacity plans) appropriately reduces the need to procure other resources by the quantity of peak load reduction that the EE Resource is expected to provide by the start of the delivery year when the peak load reduction is not already reflected in the peak load forecast for the delivery year
- Current forecast model does **not** reflect energy efficiency measures in the peak load forecast; new forecast model does reflect energy efficiency measures in the peak load forecast

- Unlike current model, new peak load forecast model **does** reflect energy efficiency measures in the peak load forecast for each delivery year
- When new peak load forecast model is adopted then an add-back mechanism is necessary in order to accommodate continued EE Resource participation in the capacity market
- Add-back of the proposed EE Resource MW quantity to the forecasted peak load of the relevant delivery year is necessary to avoid under-procurement of capacity commitments due to double-counting of EE Resource MWs when already reflected in the peak load forecast

- Meeting material includes proposed updates to M18 (RPM) and M18B (EE M&V) to describe the changes necessary to avoid double-counting of EE Resource impact on peak load forecast
- Proposed updates impact following aspects of EE Resource participation in the PJM capacity market:
 - Clearing of EE Resources in RPM Auctions
 - Auction participation eligibility of EE Resources - installation period of EE measure relative to forecast used in auction
 - Commitment of EE Resources in FRR Capacity Plans
- **Manual 18 changes have been made to the following sections: 2.4.5 (new section), 4.4, 11.2.1**
- **Manual 18B changes have been made to sections 1.1, 1.2, and 1.3**

- Prior to clearing each BRA, the reliability requirement of the RTO and each applicable LDA used in the auction clearing will be increased by the UCAP value of EE Resources as per approved EE M&V Plans submitted for the BRA
 - Planning parameters will be updated just prior to the opening of the BRA to reflect EE Resource participation as per approved EE M&V Plans submitted for the BRA

- Prior to clearing each IA, the reliability requirement of the RTO and each applicable LDA used to determine PJM buy/sell quantities will be increased by the UCAP value of EE Resources as per approved EE M&V plans submitted for that auction, and will be decreased by any uncleared EE Resource UCAP MW quantities from the prior auction conducted for that delivery year
 - Parameters will be updated just prior to the opening of the IA to reflect EE Resource participation as per approved EE M&V Plans submitted for that auction

| | <u>BRA</u> | <u>1IA</u> | <u>2IA</u> | <u>3IA</u> | |
|--------------------------------------|------------|------------|------------|------------|-------|
| PJM Reliability Requirement | 160,000 | 163,000 | 161,000 | 160,000 | |
| EE Approved in All Plans for Auction | 1,500 | 1,000 | 800 | 600 | 3,900 |
| Uncleared EE from prior Auction | n/a | 200 | 100 | 100 | |
| Adjusted PJM Reliability Requirement | 161,500 | 163,800 | 161,700 | 160,500 | |
| PJM Buy/(PJM Sell) | n/a | 3,800 | -1,300 | -500 | |
| EE Cleared in Auction | 1,300 | 900 | 700 | 500 | 3,400 |
| Non-EE Resources Cleared in Auction | 160,200 | 2,900 | -2,000 | -1,000 | |
| Cumulative EE Cleared | 1,300 | 2,200 | 2,900 | 3,400 | |
| Cumulative Non-EE Cleared | 160,200 | 163,100 | 161,100 | 160,100 | |

- The time period of an EE installation determines whether an installation is eligible to be offered as an EE Resource into an auction for a given delivery year
- Proposed Manual revisions clarify that an EE installation period that is completely contained in the history of the peak load forecast used to develop the parameters for a given RPM auction is not eligible to offer as an EE Resource into that auction since it already fully reflected in the load history
- The table on following slide uses the 2019/2010 Delivery Year to illustrate the auction participation eligibility of an EE Resource based on the Installation Period of the EE Resource relative to the vintage of the peak load forecast used to develop parameters for that auction

Auction Participation Eligibility of EE Resource Installation Year for 2019/2020 DY Auctions

| Auction | | 2019/2020 BRA | 2019/2020 1st IA | 2019/2020 2nd IA | 2019/2020 3rd IA |
|--|-----------|---------------|------------------|------------------|------------------|
| Conducted in: | | May 2016 | Sep 2017 | July 2018 | Feb 2019 |
| Peak Load Forecast Vintage | | Jan 2016 | Jan 2017 | Jan 2018 | Jan 2019 |
| Most Recent Complete Install Year included in Load History | | 2014/2015 | 2015/2016 | 2016/2017 | 2017/2018 |
| EE Resource Installation Year | 2015/2016 | X | | | |
| | 2016/2017 | X | X | | |
| | 2017/2018 | X | X | X | |
| | 2018/2019 | X | X | X | X |

X denotes that the indicated EE Resource Installation Year is eligible to offer into that auction

- The UCAP Obligation of an FRR Entity is equal to the forecasted peak load served by the entity times the Forecast Pool Requirement (FPR)
- The FRR Entity must commit sufficient capacity in UCAP terms to meet this obligation
- When the peak load forecast reflects reduction associated with energy efficiency measures and if the FRR Entity intends to commit EE Resource(s) to it's FRR Capacity Plan, then the UCAP Obligation of the FRR Entity will be increased by the EE Resource MW quantity in order to avoid double-counting of the load reduction associated with the EE Resource