Energy Efficiency in RPM

January 2010

Energy Efficiency (EE) Definition

- Installation of more efficient devices or equipment or implementation of more efficient processes/systems exceeding building codes, appliance standards, or other relevant standards at the time of installation as known at the time of the commitment to the capacity market.

- Designed to achieve a continuous reduction in electric demand that is not reflected in the peak load forecast prepared for the Delivery Year.
  - Value of EE installation is measured during defined EE Performance Hours

- Fully implemented at all times during the Delivery Year, without any requirement of notice, dispatch, operator intervention.
  - If dispatchable, it would be considered a Demand Resource.

Eligibility Criteria for EE Installation

- ✓ EE installation must be scheduled for completion prior to DY
- ✓ EE installation is not reflected in peak load forecast posted for the BRA for the DY initially offered
- ✓ EE installation exceeds relevant standards at time of installation as known at time of commitment
- ✓ EE installation achieves load reduction during defined EE Performance Hours
- ✓ EE installation is not dispatchable

Effective Delivery Year for Offering EE

- EE Resource is eligible to be offered into an RPM Auction beginning with the 2012/2013 DY.
  - Base Residual Auctions
  - Incremental Auctions

- An EE Resource is not eligible to be offered into RPM Auctions or receive RPM Auction revenues prior to the 2012/13 DY.

- EE installations are eligible to receive Capacity Market (RPM) revenue for up to four consecutive Delivery Years.

- EE installation prior to June 2011 will not be eligible for a full four years of RPM revenue, since payments would not begin until 2012/2013.

EE Installations & Eligibility

Installations that occur:	Fully Online for the Summer of:	Are Eligible to participate in RPM Auctions for the following Delivery Years:	Yrs of Revenue
Prior to June 2008	2008	~~08/09, 09/10, 10/11, 11/12*~~	0 yr
June 2008 – May 2009	2009	~~09/10, 10/11, 11/12,~~ 12/13**	1 yr
June 2009 – May 2010	2010	~~10/11, 11/12,~~ 12/13, 13/14	2 yrs
June 2010 – May 2011	2011	~~11/12,~~ 12/13, 13/14, 14/15	3 yrs
June 2011 – May 2012	2012	12/13, 13/14, 14/15, 15/16	4 yrs
June 2012 – May 2013	2013	13/14, 14/15, 15/16, 16/17	4 yrs
June 2013 – May 2014	2014	14/15, 15/16, 16/17, 17/18	4 yrs

For Transition Period, EE installation is eligible to participate in RPM Auctions for a Delivery Year if installation is not fully reflected in peak load forecast posted for the BRA.

Forecast includes installations fully online for:	PJM Load Forecast Report	Auction Date	Load Forecast Used for BRA
Summer 2008	2009	May 2009	2012/13
Summer 2009	2010	May 2010	2013/14
Summer 2010	2011	May 2011	2014/15
Summer 2011	2012	May 2012	2015/16

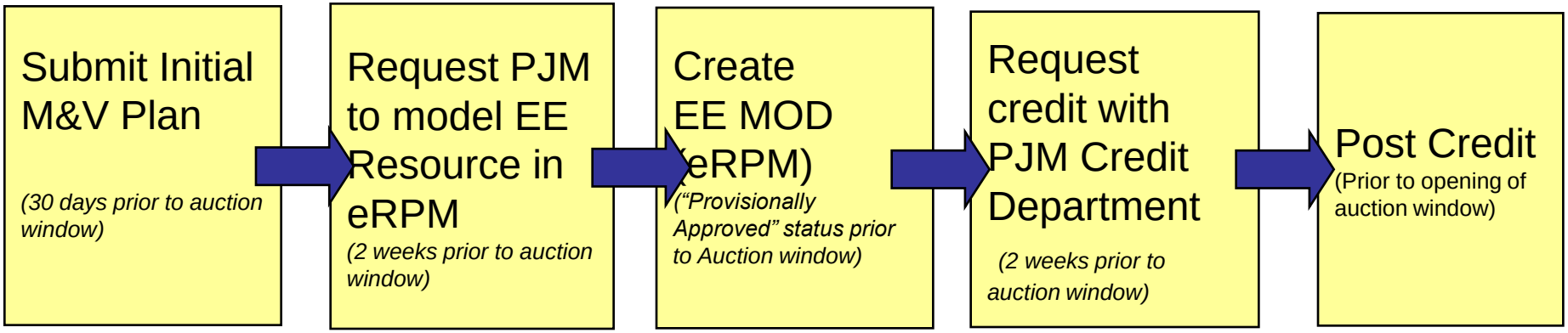
*The first Delivery Year that an EE installation may receive RPM Revenue is 2012/2013. This installation would have been reflected in the load forecast for 2012/2013, making it ineligible for any RPM Revenue.

**This EE installation would be reflected in the load forecast for 2013/2014 and beyond. It is eligible for revenue in the first available Delivery Year (2012/2013), but not for future years due to inclusion in the Load Forecast.

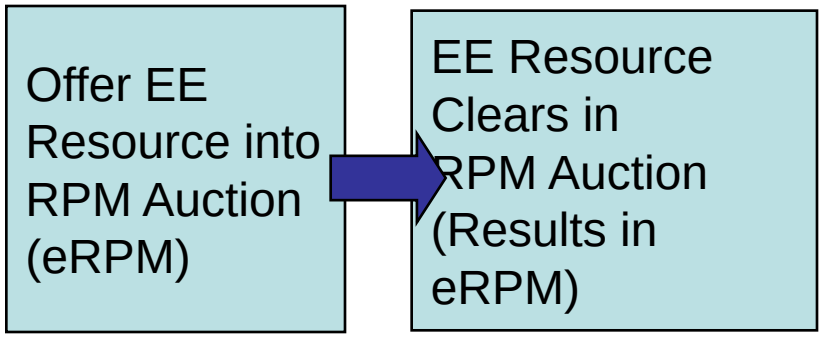
Nominated EE Value represents the ICAP Value of an EE Resource.

- **Nominated EE Value is expected average demand reduction (MW) during the defined EE Performance Hours in the Delivery Year.**
  - EE Performance Hours are between hour ending 15:00 EPT and hour ending 18:00 EPT during all days from June 1 through August 31, inclusive, of such Delivery year, that is not a weekend or federal holiday.
- Measurement & Verification (M&V) Plan describes the method and procedures for determining the Nominated EE Value of an EE Resource and confirming the Nominated EE Value is achieved.
- The minimum Nominated EE Value accepted is 0.1 MW.

Steps to Becoming an EE Resource



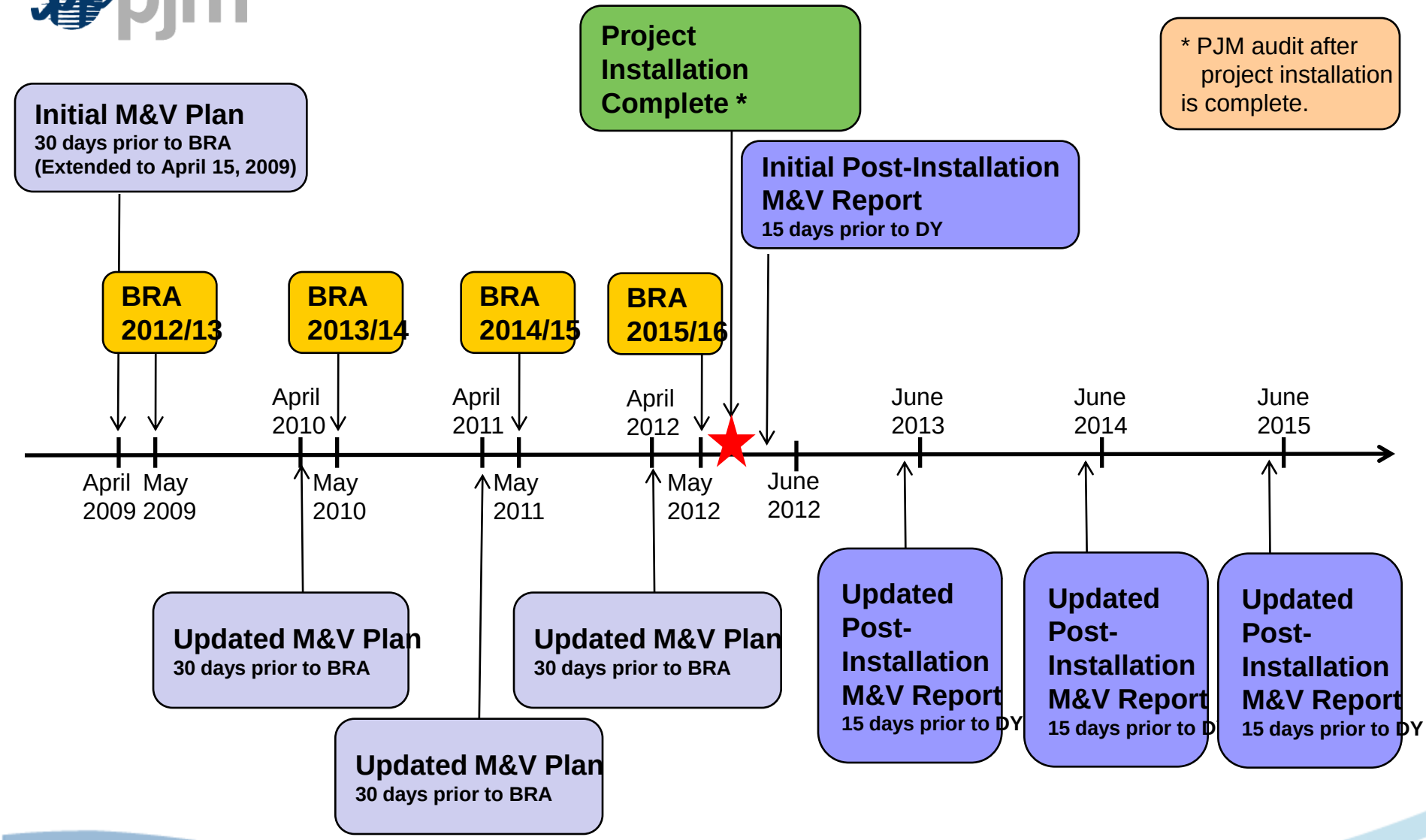
Prior to Auction Window



During Auction Window

Prior to Delivery Year

M&V Documentation Submittal Timeline



E-mail M&V documentation submittals to rpm_hotline@pjm.com.

M&V Plan Documentation

- Initial Measurement and Verification (M&V) Plan
  - Project Description
  - M&V techniques that will be used to determine and verify the Nominated EE Value (i.e., demand reduction) of the EE Resource
  - Schedule for project installation and M&V activities
  - Location of EE Resource (transmission zone)
  - Anticipated Nominated EE Value
- Updated M&V Plan
  - Changes since prior M&V Plan submittal (e.g., changes to project status)
  - Updated Nominated EE Value

Please see PJM Manual for EE M&V for more details.

Initial M&V Plan required prior to offering in RPM Auction for first DY. Updated M&V Plan required prior to offering in RPM Auction for subsequent DYs.

Failure to Submit M&V Documentation

Documentation	Impact of Failure to Submit
Initial M&V Plan	Not eligible to offer resource in RPM Auction
Updated M&V Plan	Not eligible to offer resource in RPM Auction for relevant DY and subsequent DYs
Initial Post-Installation M&V Report	• Final Nominated EE Value = 0 MW for DY. • Subject to Capacity Resource Deficiency Charges
Updated Post-Installation M&V Report	• Final Nominated EE Value = 0 MW for DY. • Subject to Capacity Resource Deficiency Charges

- RPM Commitment Compliance will be assessed daily during the Delivery Year

- If Final UCAP value of the EE resource is less than the UCAP committed, a Daily Capacity Resource Deficiency Charge will be assessed for the shortfall, unless replacement capacity is specified.

- If an Audit conducted during the Delivery Year reveals a UCAP value of the EE resource that is less than the UCAP value supported by M&V data, a Daily Capacity Resource Deficiency Charge will be assessed for any incremental shortfall *retroactively* from the start of the Delivery Year.

Daily Capacity Resource Deficiency Charge =

*Daily Deficiency Rate = Party's Weighted Average RCP + Higher of (20% * Party's Weighted Average RCP OR $20/MW-day)

- Party's Weighted Average Resource Clearing Price (WARCP) for such resource is determined by calculating the weighted average of resource clearing prices for such resource, weighted by a party's cleared and makewhole MWs for such resource.
- If a Party's WARCP for such resource = $0/MW-day, a PJM WARCP in the LDA is used.
- PJM WARCP is determined by calculating the weighted average resource clearing prices in the LDA across all RPM Auctions, weighted by the total cleared and make-whole MWS in the LDA.
- Charges are allocated on a pro-rata basis to those LSEs who were charged a Daily Locational Reliability Charge based on their Daily UCAP Obligation.
- The Resource Provider may still receive an RPM Auction Credit.

Daily RPM Auction Credit ($/day) =

- If clear an EE Resource Sell Offer in RPM Auction, EE Resource Provider will receive an RPM Auction Credit.
- Charges calculated daily and billed monthly during DY.