

MMU Proposal

SODRSTF

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Skyler Marzewski



Monitoring Analytics

Overview

- **Remove Emergency Energy Only option**
- **M&V based on PLC comparison and metered load**
- **Load triggers are THI or load threshold**
- **VRR curve shift based on participating MW**
 - **All auctions**
- **Cannot also participate as DR or PRD for the same delivery year**
- **Customers participating receive reduced PLC**

Emergency Energy Only (1)

- **Remove Emergency Energy Only option. Fully utilize economic demand response**
- **First reported in 2010 SOM report.**



Forecast Adjustment (2, 2e and 5)

- **Forecast adjustment based on load forecast run for individual auction**
- **VRR curve will shift to the left for capacity market MW valuation**
- **Eligible to participate in all auctions**
- **Participation based on firm physical assets identified prior to auction**
 - **Speculative offers not allowed to participate**
 - **Resources that can no longer participate due to physical parameters may exit the program during IAs.**

Performance Measurement (M&V) (2a and 2b)

- **Based on target PLC (using metered load data)**
- **Compare metered load to target PLC**
- **Nonperformance results in a lower performance rating**
- **Metered customer data provided to PJM and IMM for all participating customers**

Curtailment Triggers (2c, 2k and 2l)

- **Lower of a THI threshold or load threshold associated with individual program**
- **Unlimited interruption days and hours based as dictated by the THI or load threshold associated with the individual program.**

Eligibility (2m)

- Customers that are included in load forecast adjustment may not also participate as DR (**CP or Economic**) or PRD for the same delivery year

Valuation (2n and 2o)

- ~~Reduced forecast and PLC are allocated to participating customers~~
- Reduced forecast are allocated to program operator
- Transparency to PJM and IMM on allocation of program capacity cost reductions by customer

Operational and Supervisory Control (2g and 2p)

- **Optional supervisory control**
- **Dictated by individual program requirements that are communicated to PJM**



Add Backs (2q)

- The purpose of this program is to reduce total forecast requirement
- **Forecast will recognize active program MW, but not add back MW to participating programs**
- **No add backs**

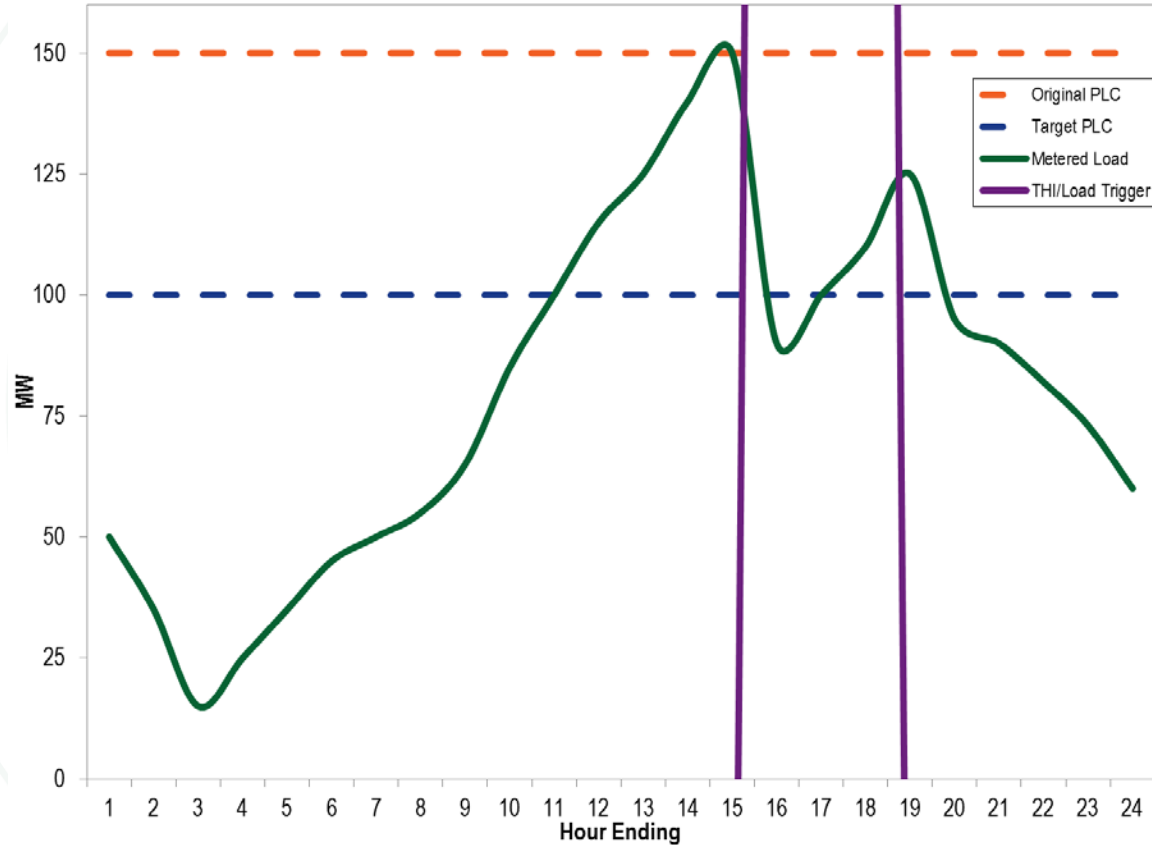
Example

- **Original PLC requirement of 150 MW**
- **There are 50 MW participating within the program**
- **Target PLC is the original PLC minus the total participating MW**
 - *Target PLC = Original PLC – Total Participating MW*
 - *Target PLC = 150 MW – 50 MW = 100 MW*

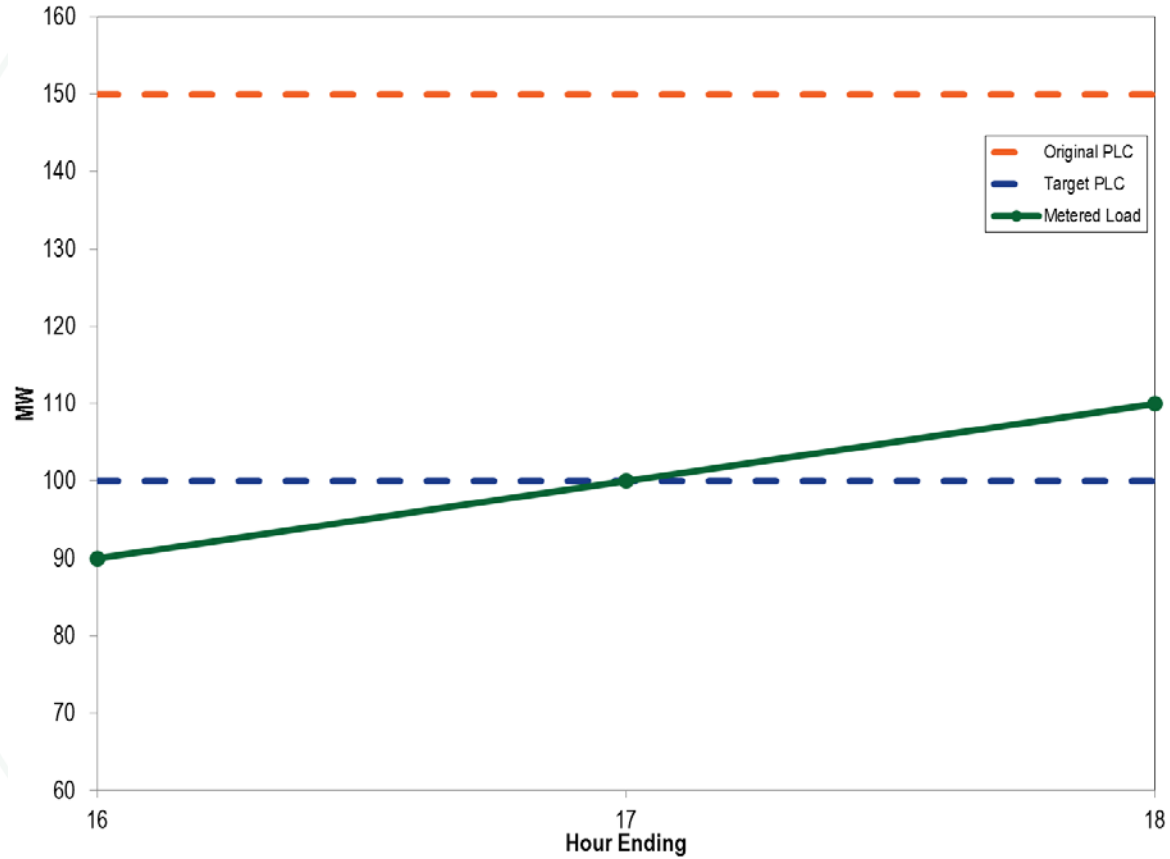
MMU Performance Rating

- Rolling average of performance rating for the three most recent years
- Hourly performance cannot exceed 100 percent
- Hourly shortfall is the maximum of the metered load minus the Target PLC, or 0
 - $Shortfall_{hour} = \text{Max}((\text{Metered Load} - \text{Target PLC}), 0)$
- Performance rating is one minus the average shortfall divided by the Total Participating MW
 - $Performance\ Rating = 1 - \frac{Avg\ Shortfall}{Total\ Participating\ MW}$

Example Day With Trigger



Trigger Hours



Shortfall Calculation

- $Shortfall_{hour} = Max((Metered\ Load - Target\ PLC), 0)$
- $Shortfall_{16} = Max((90 - 100), 0) = Max(-10, 0) = 0\ MW$
- $Shortfall_{17} = Max((100 - 100), 0) = Max(0, 0) = 0\ MW$
- $Shortfall_{18} = Max((110 - 100), 0) = Max(10, 0) = 10\ MW$

Performance Calculation

- ***Performance Rating*** = $1 - \frac{\textit{Avg Shortfall}}{\textit{Total Participating MW}}$
- ***Avg Shortfall*** = $\frac{0+0+10}{3} = 3.33 \text{ MW}$
- = $1 - \frac{3.33}{50} = 1 - 0.0667 = 93.33\%$

Monitoring Analytics, LLC

2621 Van Buren Avenue

Suite 160

Eagleville, PA

19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com

