MMU Proposal

SODRSTF

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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**

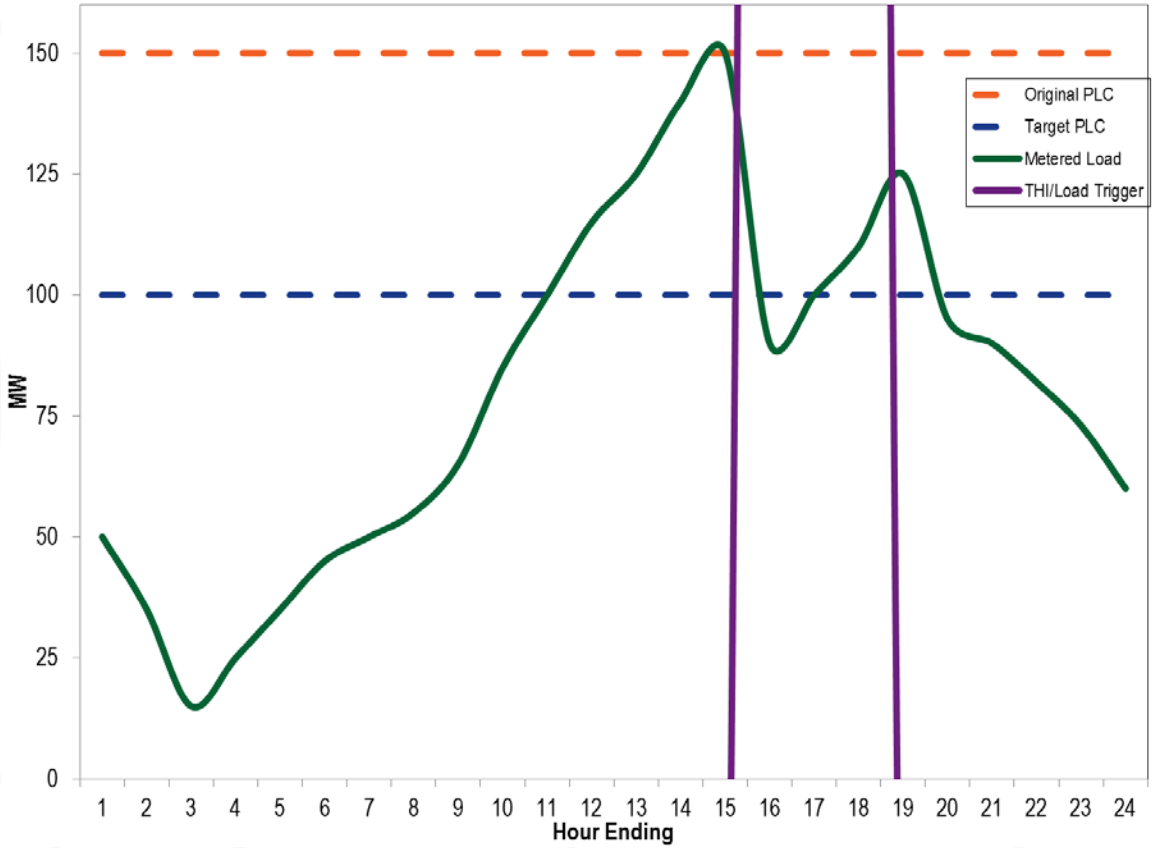
Example

- **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**
  - $\boldsymbol{Target\ PLC = Original\ PLC\ - Total\ Participating\ MW}$
  - $\boldsymbol{Target\ PLC = 150\ MW - 50\ MW = 100\ MW}$

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**
  - $Shortfall_{hour} = Max((Metered\ Load\ - Target\ PLC), 0)$
- **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



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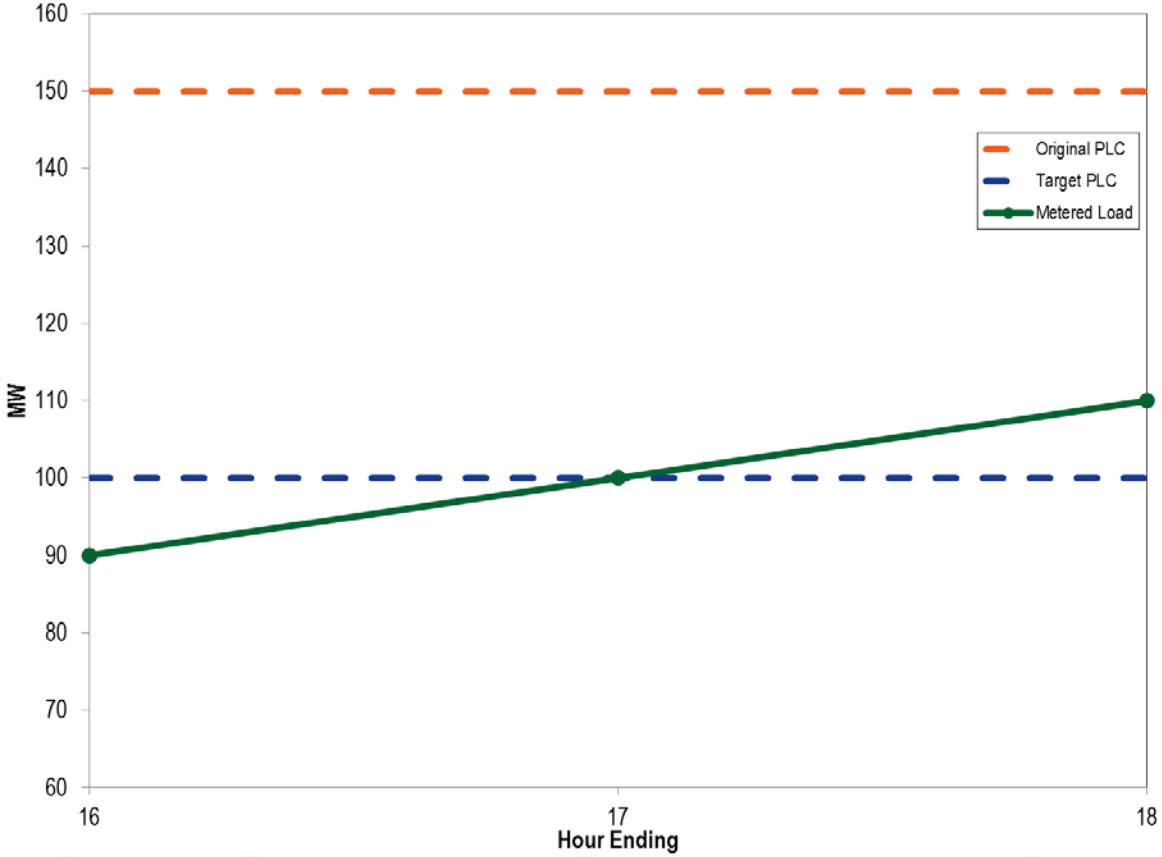
Trigger Hours



Shortfall Calculation

- $\boldsymbol{Shortfall_{hour} = Max((Metered\ Load\ - Target\ PLC), 0)}$

- $\boldsymbol{Shortfall_{16} = Max\big((90\ - 100\ ), 0\big) = Max(-10, 0) = 0\ MW}$
- $\boldsymbol{Shortfall_{17} = Max\big((100\ - 100\ ), 0\big) = Max(0, 0) = 0\ MW}$
- $\boldsymbol{Shortfall_{18} = Max\big((110 - 100), 0\big) = Max(10, 0) = 10\ MW}$

Performance Calculation

- $$Performance\ Rating = 1 - \frac{Avg\ Shortfall}{Total\ Participating\ MW}$$

- $$Avg\ Shortfall = \frac{0+0+10}{3} = 3.33\ MW$$
- $$= 1 - \frac{3.33}{50} = 1 - 0.0667 = 93.33\%$$

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