



Recently Approved Tariff Revisions – Customer Baseline for Economic Load Response

MADRI Working Group
Meeting
Trenton, NJ
6/27/08

- CBL subcommittee created January 2007
- Extensive stakeholder process to determine new CBL rules
- PJM filed tariff revisions with FERC on April 14, 2008
- FERC approved tariff revisions with changes effective June 13th
 - Any change that required PJM system enhancements will be effective when the changes are made
- Manual 11 updated to reflect tariff revisions and approved by MRC on 6/18/08

- Customer Baseline Rules Revised
- Explicit authority for PJM to review settlements and participant behavior

- **New standard CBL**
 - High 4 of 5 replaces high 5 of 10 for weekdays
 - Sundays/Holidays and Saturdays considered separately
- **Process for Alternative CBL at time of registration**
 - CSP, LSE, EDC or PJM can proposed alternative
 - PJM authority to determine appropriate CBL if no agreement
- **Limit on look back window to prevent stale CBLS**
 - 45 days
 - Extension to 60 days possible
- **Notification requirements for self-scheduled reductions**
 - Increased flexibility for CSP to revise notification
 - Non-alignment of settlement and notification hours triggers PJM review

- PJM to determine alternative CBL (or generation baseline) at registration if no agreement (Alternative CBLs published in the manuals)
- PJM review of CSP's settlements triggered when settlement and notification hours don't match
- PJM authorized to disallow unqualified settlements, suspend participation when settlements are repeatedly disallowed and refer such activity to the FERC Office of Enforcement (OE)
- PJM required to review participation when registrations or settlements are disputed or disallowed more than 10% of the time; PJM may refer the CSP, EDC or LSE to the MMU and/or FERC's OE if activity is inconsistent with market rules.

- Demand reductions must be executed in response to the real time or day ahead locational marginal price (LMP) to qualify for settlement
- Demand reductions that do not qualify for settlement include
 - settlements based on variable demand and not changed behavior
 - consecutive daily settlements submitted to maintain a stale CBL
 - settlements based on the meter data of on-site generation which is run routinely
 - settlements based on changing operations at multiple end-use sites within PJM unless the demand reduction alleviates congestion

- Aggregation rules developed
 - Same LSE and zone
 - Meet all other requirements except .1 MW threshold
 - Settlement based on sum of site meter data for all sites in aggregation (Master Account)
- Use of On-Site Generation meter data for settlement clarified
- New symmetric additive adjustment for weather sensitivity adjustment (3 hours beginning 1 hour before the event)
- Incremental offer curves for dispatchable load response

- Reference Material
- Contact Information
- Draft CBL & symmetric additive training examples
- Alternative CBL approval process

- Red-lined tariff changes
 - <http://www.pjm.com/documents/ferc/documents/2008/20080414-er08-xxx-000.pdf>
- Red-lined Manual 11 changes
 - <http://www.pjm.com/committees/mrc/downloads/20080618-item-06-manual-m11-cbl-revisions-redlined.pdf>
- Training material – currently being updated
 - <http://www.pjm.com/services/training/train-materials.html>
 - look under Demand Side Response

- DSR Hotline – (610) 666–8220
- Email – dsr_ops@pjm.com
- Member Relations – (610) 666-8980 or (866) 400-8980
- Pjm.com|Contact Us (located on top right of page)

Step # 1: Weekday CBL Basis Window

| Monday | Tuesday | Weds | Thursday | Friday | Sat | Sun |
|-----------------------|-----------------|------|-----------------------|--------|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| <i>Prior Event</i> 20 | 21 | 22 | <i>Prior Event</i> 23 | 24 | 25 | 26 |
| 27 | Event 28 | 29 | 30 | 31 | | |

- ◆ *Select 5 most recent non-event days*
- ◆ *Exclude the following day-types:*
 - *NERC holidays*
 - *Weekend Days*
 - *Event Days*
- ◆ *Replace excluded days with next valid day*
- ◆ *Final Weekday CBL Basis Window must contain 5 days (unless look-back window is reached)*

Step # 2: Weekday CBL Basis

| Monday | Tuesday | Weds | Thursday | Friday | Sat | Sun |
|----------------|----------|------|----------------|--------|-----|-----|
| | | 1 | 2 | 3 | 4 | 5 |
| 6 | 7 | 8 | 9 | 10 | 11 | 12 |
| 13 | 14 | 15 | 16 | 17 | 18 | 19 |
| Prior Event 20 | 21 | 22 | Prior Event 23 | 24 | 25 | 26 |
| 27 | Event 28 | 29 | 30 | 31 | | |

- ◆ For each of the 5 Days in Weekday CBL Basis Window calculate:
 - *Average daily event period usage* = simple average of the participants usage over the event hours in the day
- ◆ For all 5 Days in Weekday CBL Basis Window calculate:
 - *Average event period usage level* = simple average of 5 average daily event period usage values
- ◆ Exclude any day which the day's average daily event period usage is less than 25% of the average event period usage level (25% rule) and replace
- ◆ Rank all remaining 5 days, and eliminate 1 day with lowest average daily event period usage
- ◆ Weekday CBL Basis must contain 4 days

“Look-back” Window

| Monday | Tuesday | Weds | Thursday | Friday | Sat | Sun |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----|-----|
| | | 1 | <i>Prior Event 2</i> | <i>NERC Holiday 3</i> | 4 | 5 |
| <i>Prior Event 6</i> | <i>Prior Event 7</i> | <i>Prior Event 8</i> | <i>Prior Event 9</i> | <i>Prior Event 10</i> | 11 | 12 |
| <i>Prior Event 13</i> | <i>Prior Event 14</i> | <i>Prior Event 15</i> | <i>Prior Event 16</i> | 17 | 18 | 19 |
| <i>Prior Event 20</i> | <i>Prior Event 21</i> | <i>Prior Event 22</i> | <i>Prior Event 23</i> | 24 | 25 | 26 |
| 27 | <i>Event 28</i> | 29 | 30 | 31 | | |

◆ *CBL “Look-back” Window is limited to 45 days (60 days under certain conditions per PJM tariff)*

◆ *If 5 days can not be selected within the look-back window, then:*

◆ *Use only 4 days*

◆ *If there are not 4 eligible days, then event days will be used. The event days with the highest loads will be used.*

◆ *Saturdays and Sundays/Holidays : use “High 2 of 3” criteria rather than “High 4 of 5”*

Symmetric Additive Adjustment


The purpose is to more properly reflect an accurate CBL


Starting on the event day:

- Skip one hour prior to the start of the event
- Counting back, average the next three hours (Basis Average)
- Use this Basis Average to compare to the CBL for the same hours
- The difference is used to ratchet up (or down) the CBL value

| | HE9 | HE10 | HE11 | HE12 | HE13 | HE14 | HE15 | HE16 |
|---------------------------|-----|------|------|------|------|------|------|------|
| Event Day | 600 | 700 | 800 | 900 | 900 | 950 | 1000 | 1050 |
| CBL | 450 | 550 | 650 | 750 | 850 | 950 | 1050 | 1150 |
| Additive Adjustment | | | | | 150 | 150 | 150 | 150 |
| Adjusted CBL | | | | | 1000 | 1100 | 1200 | 1300 |
| Calculated Load Reduction | | | | | 100 | 150 | 200 | 1300 |

Example:
 In this scenario, usage is much higher than normal on event day. Using the Additive Adjustment will result in a positive (higher) adjustment to the CBL.


 Additive
 Adjustment Period


 Hours curtailed
 during event day

- Indicate proposed CBL in notes section of LoadResponse registration or re-registration
 - For example, “Proposed CBL – High 2 of 3, where a CBL is calculated for each daytype (Mon, Tues, etc.)”
- Email proposed alternative CBL analysis to all interested parties
 - If CSP proposes then email goes to edc, lse and pjw (dsr_ops@pjm.com)
 - If LSE proposes then email goes to csp, edc and pjw
- Email PJM status within 25 days of proposed alternative CBL
- If no agreement then PJM to review, discuss and finalize within 20 days.
 - 1 year of interval data should be submitted to PJM
- All settlements required to use alternative CBL, if CSP would like to avoid adjustments then wait to submit settlements until outcome of alternative CBL process
- PJM to publish alternative CBL with associated load characteristics to Manual 11