Guaranteed Load Drop Measurement and Verification

Load Management
Task Force

7/8/2010

John Webster

Monitoring Analytics

Test Measurement and Verification

- **Current business rules for measurement and verification of Load Management are inadequate:**
  - **CSP has multiple baseline methods to chose from that vary in rigor, bias and accuracy**
  - **Comparable Day and Same Day are subjective, considering a single data point chosen by CSP**
  - **Only regression analysis, or adjusted CBL, account for factors causing normal load fluctuations, such as weather**

Test Measurement and Verification

- **It is or should be within the scope of the Load Management Task Force to address this issue**
  - **Current language in Manual 19 requires CSP to chose GLD method that results in "best possible estimate"**
  - **Some options are clearly more robust, empirical than others**
  - **Objective should be to implement the most accurate method possible for all customers**

Comparable Day

- **Under current business rules, there are no criteria to determine comparability**
- **CSP has the ability and incentive to pick high load day for baseline, low load day for test**
- **This method ignores any variables underlying load fluctuations, such as weather, day of week**
- **No empirical way to compare to other methods**

PJM Proposal

- **Under PJM proposed changes, weather adjustment is "opt in" only**
  - **Historically, less than 5 percent of customers have opted into weather adjusted baselines, significantly understating the proportion of weather sensitive participants**
- **Other customers pick closest day in proximity**
  - **CSP has the ability and the incentive to pick high load day as baseline, low load day as test**

Option Comparison

Option	Daily Observations (n)	Backtest Capable?
Comparable Day	1	No
Same Day	**1**	**No**
Standard CBL	4	Yes
CBL w/ Symmetric Additive	**4**	**Yes**
Regression Analysis	30 - 65	Yes

MMU Position

- **Comparable Day and Same Day in current form should be eliminated**
- **Of current options, regression analysis will result in "best possible estimate" for most if not all GLD customers**
- **A pilot study should be conducted by PJM with MMU access to data and stakeholder input to**
  - **evaluate accuracy of regression compared to other GLD methods**
  - **identify any obstacles to implementation.**

Pilot Study

- **An effective pilot study will:**
  - **Include customers of various load types, sizes**
  - **Include multiple CSPs**
  - **Include multiple LSEs/EDCs**
  - **Analyze GLD method accuracy by customer type, to determine if multiple default methods are necessary**
  - **Quantify accuracy of regression in comparison to all current and proposed methods by back-testing model estimates to actual load**

Pilot Study

- **An effective pilot study will:**
  - **Include the following methods: Standard CBL, CBL with additive adjustment, Regression Analysis, PJM Comparable Day, MA Comparable Day**
  - **Identify and document significant obstacles or shortcomings associated with implementation of regression analysis**
  - **Provide the data and information necessary for stakeholders to decide the most accurate GLD method that can feasibly be implemented**

Considerations

- **Availability of prior summer hourly load data**
  - **If no prior data is available how much current year data is needed?**
- **Estimated turnaround time for developing accurate regression model for individual CSPs**
- **Extent to which process can be automated or if additional resources are required**
- **Consensus building or issue resolution process for model results**
  - **Back-testing appropriate**

LMTF Timeline

- **With implementation target of 2011/2012 DY, no method should be incorporated into business rules without back-testing utilizing 2010/2011 DY data**

Monitoring Analytics Role

- **Monitoring Analytics is prepared to:**
  - **perform analysis**
  - **verify results in the proposed pilot study**
  - **verify results in actual GLD method implementation**

- **Monitoring Analytics role is based on tariff responsibilities as the Independent Market Monitor for PJM**

Monitoring Analytics, LLC
2621 Van Buren Avenue
Suite 160
Eagleville, PA
19403

(610) 271-8050

MA@monitoringanalytics.com

www.MonitoringAnalytics.com