

Measurement and Verification for Residential DR

2/15/2017



- No change in status quo for M&V and meter data collection
- Actual hourly meter data for all customers is used
- Not eligible to participate in sampling

- M&V done via real-time sample
 - Random and representative sample of customers with non- interval meters
 - Sample is in real-time – i.e. data from sample is from same time period as event
 - Hourly data from sample is scaled to population
 - After data is scaled to population, processes are same as interval metered customers

- Sample must be designed to be representative of population
- Maximum error of 10% at 90% confidence
 - If we draw sample same way, 90% of samples drawn will give a result within +/- 10% of true population value

- To be submitted to PJM before registration
 - M&V plan (before May 1)
 - Program Description Template:
<http://www.pjm.com/~media/etools/elrs/residential-mv-program-description-template.ashx>
 - Variance Study and Sample Selection Template:
<http://www.pjm.com/~media/etools/elrs/residential-mv-variance-study-and-sample-selection.ashx>
 - Meter quality assurance and qualification documentation
- To be submitted to PJM before June 1 (Start of Delivery Year)
 - List of all registered customers (customers that will participate): EDC account number, PLC, zip code
 - Pseudo-EDC account permitted where legal/regulatory conditions prohibit sharing
- To be maintained by CSP for 2 years and submitted to PJM on request within 2 business days.
 - List of any replacement customers
 - List of customers cycled during an event
 - Individual meter data (sample or actual) from event/test

See comprehensive training material at - <http://www.pjm.com/~media/training/core-curriculum/ip-dsr/residential-measurement-and-verification.ashx>

- M&V plan must be submitted and approved by PJM before registration is submitted.
- Updated and resubmitted annually to continue participation in PJM markets
- Content:
 - Details on variance study
 - How was sample size determined
 - How was sample selected and stratified
 - Meter qualification
 - Meter quality assurance
 - Data validation and error correction protocol
 - How will sample meter data be converted to population meter data

- Sample size recalculated using data from customers in current sample using variance study (see template*)
- Replacements if necessary must be randomly selected in order to maintain strata integrity, etc.
- If population is expanded in non-random manner, sample must be expanded appropriately

*<http://www.pjm.com/~media/etools/elrs/residential-mv-variance-study-and-sample-selection.ashx>