



# Proposed Solution

## M&V for Residential DR in Energy and Capacity Markets

Demand Response  
Subcommittee  
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- **Issue**
  - Current M&V methods for residential customers are based on legacy DLC programs from 20 years ago
- **Proposed Solution**
  - Interval metered customers: use actual meter data (status quo)
  - Non-interval metered customers: use real-time sample

- No change in status quo for meter data collection
- Actual hourly meter data for all customer is used

- Real-time sample
  - Random sample of customers with interval meters
  - Hourly data from sample is scaled to population data
  - After data is scaled to population, processes are same as interval metered customers

- Data to reflect actual reductions
- Settlements and compliance based on real time data
- Balance between maintaining a valuable resource and accurate information
- Transparency
- Indifferent to mode of end use load reduction
  - Allows for behavioral program, etc.
- Accounts for
  - Geographic diversity
  - Increases in energy efficiency
  - Changes in load patterns over time due to economy, etc.

- Sample design will satisfy 10% precision at 90% confidence
  - Approximately 150 customers
- Interval meters
  - EDC meter level (entire premise/EDC account number) – status quo
  - Meter accuracy – status quo (2%, ANSI compliance, etc.)

- 2 way communication
  - Performance factor for each event based on actual population operability
  - Inoperable switch in sample
    - Sample size > requirement: do not report load data from inoperable switch
    - Sample size < requirement: must report load data from switch
  - Can repair faulty switch in sample or population at any time

- 1 way communication
  - Must report data from all switches, even if inoperable
  - Cannot repair failed switches until:
    - Repair faulty switches in population
    - OR Reselect entire sample
    - Includes any system/device that would cause end-use device not to reduce load properly in the population
  - Metering and metering communication
    - Can be fixed in sample
    - Includes only systems/devices that would not affect load reduction in population
    - Component that is related to both metering and switching cannot be repaired
  - Switch failures in sample must be reported to PJM within 2 business days



- Issue: Residential customers with class average PLCs may not get full credit for load reduction if larger than average
- Solution: Modified GLD
  - GLD is used for compliance
  - Load reduction not limited by PLC
  - Eligible customers
    - Residential
    - no PLC
    - No individual data in PLC
      - Individual = scaled to monthly or hourly data

- Provide PJM with list of EDC account numbers at registration
- If a customer leaves the program due to:
  - Moving
  - Customer terminates contractThe customer who left may be replaced with a new customer
- Maintain daily list of customers in registration
  - Completed before each operating day
  - Furnished to PJM within 2 business days of request