Proposed Solution
M&V for Residential DR in Energy and Capacity Markets

Demand Response Subcommittee
May 16, 2014
• 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
Non-Interval Metered Customers

• 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 in-operable switch
    • Sample size < requirement: must report load data from switch
  – Can repair faulty switch in sample or population at any time
Switch Operability – 1 way

• 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 contract

The 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