DR metering requirements

DER Subcommittee
6/29/18
## DR metering requirements by market

<table>
<thead>
<tr>
<th><strong>POI</strong></th>
<th><strong>Granularity</strong></th>
<th><strong>Delivery</strong></th>
<th><strong>Accuracy</strong></th>
</tr>
</thead>
<tbody>
<tr>
<td>Energy &amp; Capacity</td>
<td>EDC POI</td>
<td>Hourly</td>
<td>~60 days after the fact  +/- 2%</td>
</tr>
<tr>
<td>Synchronized Reserves</td>
<td>EDC POI</td>
<td>1 minute</td>
<td>2 business days after the fact  +/- 2%</td>
</tr>
<tr>
<td>Regulation</td>
<td>EDC POI or device upon approval</td>
<td>2 or 10 second</td>
<td>Real time  +/- 2%</td>
</tr>
</tbody>
</table>
• Metering equipment can be either:
  – 1) The metering equipment used for retail electric service
  – 2) Customer-owned metering equipment
  – 3) Metering equipment acquired by the CSP for the customer
• Metering requirements shall meet:
  – 1) Electric Distribution Company requirements for accuracy or,
  – 2) Have a maximum error of two (2) percent over the full range (end-to-end) of the metering equipment (including Potential Transformers and Current Transformers)
  • For pulse data recorders (PDR), this includes the PDR error plus EDC meter error
• Metering must be defined for each location (EDC account number/POI) in DRHUB
  – If EDC Meter type chosen, then EDC will review upon registration and EDC load data will be source of information for all DR activity
  – If CSP Meter type, then CSP shall:
    • Select Meter Equipment (Make/Model) in DRHUB
    • Select correct interval for Metering
    • Enter Installation Date
    • Select Meter Quality Assurance Plan to be used for meter from dropdown menu
    • Certify that meter was installed as per the QA Plan
If CSP Meter Equipment has not been approved by PJM then CSP shall:

- Provide Make/Model
- Upload documentation certifying metering meets 2% accuracy standards
  - ANSI 12.1 (meter) and 57.13 (CT/PT) certified or equivalent Industry Standards
  - Independent 3rd party tested and approved by PJM
- Upload documentation detailing Meter QA Plan or reference existing approved plan
• Real Time Telemetry
• CSP to connect with PJM SCADA via the Jetstream system (DNP3 protocol)
• Scan rates for Real Time Telemetry data are to be at a two-second interval with the exception of AReg which is at a ten-second rate
  – see Manual 12 section 4.4.2
• Regulation Performance Scoring allows ten-second latency for signal propagation delay for regulating resources
• Metering is at Point of Interconnection (POI) with Utility
  – EDC Account Number Level
  – Sub-metering at end use level may be approved by PJM on an exception only basis after PJM review of one-line diagram submitted by CSP
    • Regulating load must be small portion of site-load
    • One-line diagram should include all electric devices beneath the EDC account meter
    • No load shifting can occur which will offset the impact of the end use that will be regulated
    • Additional metering for monitoring for injections at the POI must be approved by PJM

• Meter must always be on AC side of inverter