



DR metering requirements

DER Subcommittee
6/29/18

	POI	Granularity	Delivery	Accuracy
Energy & Capacity	EDC POI	Hourly	~60 days after the fact	+/- 2%
Synchronized Reserves	EDC POI	1 minute	2 business days after the fact	+/- 2%
Regulation	EDC POI or device upon approval	2 or 10 second	Real time	+/- 2%

- 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



Rules are outlined in Manual 11, section 10 –
Interval Meter Equipment and Load Data Requirements

- 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
 - Template: <http://www.pjm.com/-/media/etools/dr-hub/dr-customer-owned-meter-quality-assurance-plan-template.ashx?la=en>

- Real Time Telemetry
- CSP to connect with PJM SCADA via the Jetstream system (DNP3 protocol)
 - See: <http://www.pjm.com/markets-and-operations/etools/jetstream.aspx>
- 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