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Section 2 Metering Equipment Standards and Specifications

Each revenue metering system that supplies metering data to NYISO for energy settlement purpose shall meet the reliability and accuracy requirements outlined in this section. Components of such revenue metering systems shall comply with the standards detailed in appropriate sections of the industry standards or applicable standards/policies issued by Transmission Owners. These components should include transducers, RTU, instrument transformers, power supply and data transmission sub-system. The installation, calibration and maintenance of the revenue metering equipment is detailed in Section 3 of this manual.

2.1 General Requirements

2.1.1 Reliability

Each revenue metering system shall be capable of supplying revenue metered data to NYISO on a timely and reliably manner. In the events that such data transmission is interrupted, the Metering Authority that is responsible shall provide back-up metering data to NYISO in a time frame that will not impact energy settlement. The Metering Authority shall restore the normal data transmission capability as promptly as possible.

2.1.2 Accuracy

Aggregated error associated with digital data transmission to NYISO from each revenue metering system shall not exceed 0.1 percent. Analog data that must be used to substitute for missing digital data should not exceed 1.0 percent of full scale analog reading.

2.1.3 Documentation

Electrical and schematic diagrams, and documentation associated with revenue metering systems and their components shall be maintained by the Metering Authority in compliance with the New York State Electric Meter Engineers' Committee Guide.

2.2 Detailed Requirements

Technical requirements for meters, instrument transformers, power supply and data transmission subsystem associated with a revenue metering system are defined below. The application, installation, configuration and wiring associated with each of these component shall conform to the guide lines delineated in the Guide for Uniform Practices in Revenue Quality Metering.

2.2.1 Meters

The meters used for MWH meter data shall be digital, true RMS devices that meet or exceed ANSI C12.20 standards. Revenue meters except for those that are qualified for grand-father clauses associated with this manual shall have the ability to record load profile data.

Revenue meters shall be accessible remotely by the use of telephone dial up or other communication technology.

Revenue meters shall be located inside a building or structure that provides adequate protection of the equipment from the weather. The meters shall be properly sealed. Structures that house revenue meters shall be securely locked.

Revenue meters shall be configured according to manufacturer's recommendation. In case this is not practically achievable, proper compensation for line and transformer losses and for instrument transformer errors shall be adjusted in the final revenue metering data. Refer to the latest edition of Edison Electric Institute's Handbook for Electricity Metering for details.

2.2.2 Instrument Transformers

All instrument transformers shall be approved for revenue purpose by the NYPSC.

All instrument transformers shall meet or exceed ANSI standard C57.13 and all applicable ANSI C12 Series standards.

All Current Transformers (CT's) and Voltage Transformers (VT's) used for revenue metering purpose shall conform to the ANSI standard accuracy class for metering services of 0.3 or better.

All CT's shall withstand continuous operation and maintain the above accuracy at twice or more of rated current.

All Voltage Transformers (VT's) shall be of a wound or cascade type. Coupling Capacitor Voltage Transformers (CCVT's) are not permitted for revenue metering purpose.

2.2.3 Data Transmission Subsystem

Telemetry data that are required for NYISO's PTS values shall be transmitted to NYISO using ICCC protocol. The requirements associated with this data stream is specified in the NYISO Central Control Room Manual.

Hourly MWH data is required to be automatically uploaded to the NYISO WBR(Web Base Reconciliation) server following the data communication requirements outlined in NYISO's WBS technical manuals.

Each Market Participant shall have some other means of transmitting either telemetry data or hourly MWH data to NYISO in the event that either of the above two data transmission processes is interrupted.