

**Comments submitted by James Donnelly of National Grid
Related to 10/29/2004 version of RMR Manual:
2/28/2005**

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1. Overview

This manual is intended for use as standards for the revenue metering systems required for accurate settlement of the New York Independent System Operator (NYISO) markets. It defines (changed from provide) responsibilities for Metering Authorities (MA) and describes processes for data processing, analysis, and dispute resolution.

Reference for this document is the [Guide for Uniform Practices in Revenue Quality Metering](#) approved by the New York State Electric Meter Engineers' Committee, August 20, 2003.

Comment: This should also reference the CDAS manual as the controlling document for the operational metering used in real time source data

1.1. Background

This document applies to all metering systems and equipment that is used for settlement of the NYISO markets. Concerning the November 1999 NYISO online date, to allow for timely and economical implementation of the NYISO Market, current metering existing in operation for the NYISO (formerly New York Power Pool), Transmission Owners (TOs), Eligible Customers and other applicable Participants, although not conforming to these requirements, need not be upgraded until such time the need for upgrade or replacement is demonstrated to be operationally and economically required, or if required by the NYISO Tariff or TO Tariff.

1.2. Terminology

The following terms are an integral part of this manual:

- **Data Quality** — The measure of the reliability and accuracy of a data item transmitted to the NYISO.
- **Metering Authority** — The designated entity responsible for the meter(s) accuracy and transmission of meter data in accord with NYISO meter standards, tariff, and/or TO contract agreements.
- **Metering and Data Accuracy Analysis** — Method of monitoring the quality of NYISO Data and the procedure of communications between parties and NYISO can be found in Section 3.5.
- **Meter Inventory** — The listing of revenue meters for which a Meter Authority is responsible.
- **Metering Problem** — Where the quality of an item of telemetered data is poor enough to affect the accuracy of accounting settlements and the cause of such poor quality has been traced to metering equipment installed.
- **PTS Data** — Real-time telemetry which is utilized for NYISO settlements.

Comment: What does this mean? What is the measure?

Comment: THERE IS NO SECTION 3.5 - should this be 5.1?

Comment: What if the meter is not telemetered but the accuracy is suspect isn't a metering problem independent of the communications should communications failures be a separate problem or a subset of metering problems.

Comment: A definition of PTS should be added – see below

Comment: Is this correct – isn't the use of this data for settlement only a minor part of PTS?. This manual should not be written in a way that provides definitions that may be at odds with the way a term is used in other areas

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Add

Performance Tracking System - 'PTS' - A system designed to provide quantitative comparisons of actual values versus expected and forecasted values for Generators and Loads. This system will be used by the NYISO to measure compliance with criteria associated with the provision of Regulation and Frequency Response Service.

Comment:

• **Revenue Quality Metering** — An accurate metering system that satisfies ANSI C12 requirements for electrical energy billing purposes; approved for use by both the TO and the New York State (NYS) Public Service Commission (PSC) and is capable of providing **instantaneous** and/or stored energy readings.

• **Sub-Zone** — **Sub-Zone** - The geographic area within a load zone which is served by the same Transmission Owner so that all loads within that area are billed the same Transmission Service Charge (TSC) Rate.

• **Web Based Reconciliation** — A web-enabled application for the upload and download query functions related to hourly tie line, generation, sub-zone, and load bus data.

• **Zone** — A defined portion of the NY Control Area that encompasses a set of load and generation buses. Each Zone has an associated zonal price that is calculated as a weighted average price based on generator LBMPs and generator Bus Load Distribution Factors. A "zone" outside the NY Control Area is referred to as an External Zone. Currently, New York State is divided into eleven zones, corresponding to ten major transmission interfaces that can become congested

Definitions of Settlement ??? revenue metering system ???

2. Metering Equipment Standards and Specifications

The purpose of this section is to provide specifications for revenue metering system equipment. The specifications are intended to create an infrastructure for NYISO market billing **that has the highest accuracy possible**. The legacy-billing infrastructure used for the New York Power Pool that is still in place may continue to support the billing process, but may only meet the requirements of "backup" billing metering. Where this is the case, additional attention and monitoring will be required to maintain the accuracy of these installations until such time as a metering installation such as these specifications outline will be installed.

2.1.2. Accuracy

Revenue quality meters should meet the accuracy requirements in the [Guide for Uniform Practices in Revenue Quality Metering](#). Billing data values obtained from meters meeting this specification shall be transmitted to the NYISO's Web-based Reconciliation (WBR) application with zero error.

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2.1.3. Documentation

.....2-2 The NYISO shall maintain an inventory of the type of meter installed, data collection method, and calibration status, for all revenue meters. Metering Authorities will provide this data to the NYISO annually.

2.2. Detailed Requirements

This section provides detailed requirements for revenue metering equipment.

2.2.1. Meters

The meters used for MWhr meter data shall be digital, true Root Mean-Squared (RMS) devices that meet or exceed ANSI C12.20 standards. Revenue meters for new installations 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 **should** (**changed from shall**) be located inside a building or structure that provides adequate

Comment: 1- Is Instantaneous the appropriate term. We are referring to the ability to measure energy data for specified periods of time. Instantaneous denotes reporting is related to when the data is reported, at or nearly at the time the energy flow occurs. In any event there are few (if any) meter installations that provide revenue quality data on an instantaneous basis.

Comment: The definition found at the ISI site is "Sub-Zone - The geographic area within a load zone which is served by the same Transmission Owner so that all loads within that area are billed the same Transmission Service Charge (TSC) Rate.

" Why would we make up a new definition, this manual's use of terms should be consistent with other ISO documents

Comment: This is a specific ISO system, cant we be more specific in defining it

Comment: Consistency with ISO documentation???

Comment: The highest accuracy possible??? We could put interval meters at every customers premise if we wanted to do this.

Comment: If the manual is not addressing these additional requirements this wording should be dropped

Comment: Will the ISO do anything with this information? If not why have this here- If so it should be noted here..

Comment: I can't locate this in the original manual but it isn't highlighted as new ? where is it from

Comment: Shouldn't this be addressed in the guide for uniform practices in inter utility metering?

Comment: What does record "load profile data "mean in this context- are we just talking interval data ??? what interval lengths are required?

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 **the responsible MA's specifications, making note of manufacturer's recommendation as applicable.** 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

2.2.3. Data Transmission Subsystem

Telemetry data that are required for the NYISO's Performance Tracking System (PTS) values shall be transmitted to NYISO using Inter-Control Center Communications Protocol (ICCP). The requirements associated with this data stream is specified in the [NYISO's Control Center Requirements Manual](#).

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

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

Comment: And if each MA has a different means how will the ISO receive the data? Should consider dropping this.

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3. Guidelines for the Installation, Calibration and Maintenance of Revenue Metering Systems

This section provides guidelines for the installation and maintenance **of all** equipment utilized for measuring, recording, and reporting of electrical generation, transmission, station powerconsumption, and other meter data to enable the NYISO to settle the markets.

Comment: Should not cover PTS related equipment

3.3.1. Calibration and Maintenance Standards

Periodic calibration of existing metering installations must be made to achieve performance, as defined in the [Guide for Uniform Practices in Revenue Quality Metering](#)

Comment: achieve performance ???? what does this mean

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2. **Test Range Increments** — Checks shall be made in 20 percent increments for Transducers from zero to 100percent, inclusive, of rated input, or as specified by the manufacturer if more stringent. Test range increments for revenue grade metering devices shall reflect those specified in ANSI C12.1 - American National Standard Code for Electricity Metering.

Comment: we have noted that currently installed equipment does not need to be ansi C12 compliant- shouldn't it be clear that these calibration standards only apply to ansi c12 equipment and not older equipment that falls under the general exception.

4.3. Data Processing

The NYISO will only accept revenue meter data from an approved MA. [Description of the MA approval process. Description of how meters are assigned to MAs.]

The MA will provide instantaneous and stored metered data which meets the NYISO (and Transmission Owner) requirements to the NYISO and the TO responsible for the meter.

NYISO Revenue Metering Requirements
Revision (1.0), Effective Date: Draft - 11/3/2004

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Any Load Serving Entity (LSE) that is not metered on an hourly or instantaneous basis will have its Load determined by the TO in whose Load Subzone they are located.

All MAs that report data for Sub-Zonal Ties and Generators used in the calculation of the NYISO market settlements shall also include hourly load profile data. Revenue metering data should be submitted the NYISO by the next business day.

[Awaiting direction from BAWG on whether or not these sections will remain in this manual. WJdV 10/21/04] we should make a recommendation

Comment: what does this mean- for this section how is load profile data defined??