



NYISO Metering Review

Prepared for the NYSMEC

DRAFT – 5/8/03 - For Discussion Only

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NYISO Metering Review

- ✓ Validation of consistency between the NYISO and TO databases for billing.
- ✓ Requested each TO provide for each subzonal tie and gen
 - *Station identification (name and circuit numbers)*
 - *PTID*
 - *Meter Authority and party responsible for the meter*
 - ✧ **Payments based on Meter Authority (TO's for load and gens)**
 - *If a MW or MWHR meter is used for the primary and backup source*
 - *If dial-in access is available*
 - *Are metering or relay quality CTs and PTs used*
 - *Is the meter used for billing a revenue quality meter*
 - *Last Calibration date as defined in the Control Center Requirements Manual*
- ✓ Inventory originally requested by BIC in 2000, Initiated by original metering taskforce in 2001, NYISO took on the current activity in September 2002

NYISO Metering Review

✓ Objectives

- *Benchmark what's in the field today*
- *Confirm Meter Calibration (through a survey process)*

✓ Long Term Objective (accuracy, shortened billing cycle, and other enhancements)

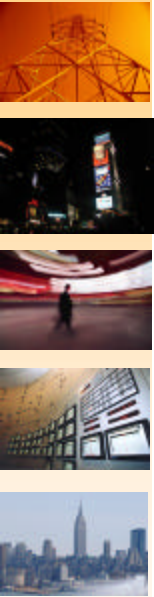
- *Shorten time required to gather information to the NYISO for billing*
 - ✧ **Savings in manpower costs at TO and NYISO**
- *Could shorten the time required to provide the information to the NYISO*
 - ✧ **May yield shorter turn around times for bills**
- *Reduction in efforts to gather the data*
 - ✧ **Less meter readings in the field**
- *Improved meter accuracy*
 - ✧ **Minimizes rebilling**

NYISO Metering Review

- ✓ NYISO Control Center Requirements Manual
 - *Dated 9/24/99*
 - *Focuses on*
 - ✧ **Computers used to monitor and control the power system**
 - ✧ **Communications**
 - ✧ **Metering systems for reliable and economic operation of the NYISO**

NYISO Metering Review

Metering Inventory Results Summary DRAFT FOR DISCUSSION ONLY									
1-May-03									
		#	# without MWHR meters	# without backup metering	# without Dial-up	# without Revenue Quality	# without Metering CT/PT	# with Last Calibration Dates > 2 years	
ConEd	Ties	12	1	1	12	0	0	0	
	Gens	44	5	5	5	6	6	6	
						6 unknown	6 unknown	6 unknown	
LIPA	Ties	2	0	0	2	0	0	1	
	Gens	61	0	0	53	0	49	19	
								2 unknown	
CHG&E	Ties	10	0	0	3	3	10	0	
	Gens	15	2	2	6	6	11	0	
			2 unknown	2 unknown			11 unknown		
O&R	Ties	19	0	0	9	0	10	0	
	Gens	9	0	0	9	0	0	1	
NYSEG	Ties	55	0	0	1	0	0	0	
	Gens	33	0	0	0	0	0	0	
NG	Ties	95	60	73	80	75	95	95	
	Gens	90	0	11	20	10	9	61	
						3 unknown	8 unknown	43 unknown	
NYPA	Ties	22	0	1	8	0	2	2	
	Gens	74	0	0	61	7	0	0	
						7 unknown		2 unknown	
RGE	Ties	20	0	0	8	6	6	6	
	Gens	6	0	0	6	0	6	6	
					6 unknown	6 unknown	6 unknown	6 unknown	
TOTALS	Ties	235	61	75	123	84	123	104	
	Gens	332	7	18	160	29	81	87	
NOTE - Numbers include the unknowns									



NYISO Metering Review

✓ Conclusions

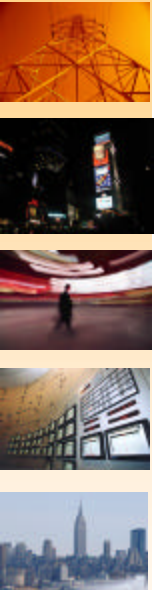
- *ConEd, LIPA, O&R, NYSEG, RGE, NYPA have implemented revenue quality metering on ties*
- *112 of 235 ties have dial-in capability (predominantly NYSEG, NYPA, and RGE)*
- *172 of 332 gens have dial-in capability (predominantly ConEd and NYSEG)*
- *Most TO's have Confirmed Meters have been calibrated within the 2 year window defined in NYISO Control Center Requirements Manual*
- *174 of 235 primary meters on ties are MWHR*
- *325 of 332 gens have MWHR meters*

All numbers are approximate

NYISO Metering Review

✓ Where do we go from here?

- *Significant Challenge Cycle Improvements*
 - ✧ Metering quality improvements are required
 - ✧ MV-90 access on most meters will be required
 - ✧ Improved processes for modifying / revising information (being addressed through Web Based Reconciliation Project)
 - ✧ Requires improved efficiencies in producing timely bills
- *Development of Standards for metering*
 - ✧ Standards for meters used for billing, SCADA, Voltage, MVAR, EDRP, End Use Metering
 - ✧ Meter Specifications
 - ✧ Meter Locations (stations) and consistency (i.e. gross output)
 - ✧ Rules to allow for the use of most accurate metering in billing
 - ✧ Consistency in handling 23 and 25 hour days
 - ✧ Technical Bulletin / Process for confirming Meter Calibration
 - ✧ Other Technical Bulletins
- *Direct metering from generators to the NYISO*



NYISO Metering Review

- ✓ Metering Task Force formed in January '03
 - *Addressing Updating the Control Center Requirements Manual*
 - ✧ **Removing sunset clause**
 - ✧ **Addition of Interval Metering for all gens and ties w/in 24 hours**
 - ✧ **Strengthen language**
 - ✧ **Clearer definition / redefinition of Metering Authority**
 - ✧ **Dispute resolution rules development**
 - ✧ **Etc.**
 - *Accuracy of metering for improvements in the billing challenge cycle*
 - *Development of metering standards*

NYISO Metering Review

- ✓ MTF requests NYSMEC support in addressing the following issues:
 - *CT & PT availability and accuracy specifications*
 - *Meter accuracy vs. overall system accuracy*
 - *Semantics of “revenue quality” vs. “relay quality” instrument transformers and effect on accuracy*
 - *2 element vs. 3 element meters*
 - *Functionality of state-of-the-art metering equipment*
 - *Calibration requirements, periodic test requirements for meters and related equipment*
 - *Repository for test results and availability of test results by others*
 - *Does the current metering meet requirements detailed in the guide*
 - *Is it possible to meet the intent (accuracy) of the guide, while meeting the letter of the guide? Conditions under which this would be acceptable.*
 - *Does the current guide reflect or exceed current ANSI or other related standards requirements?*

NYISO Metering Review

- ✓ MTF requests NYSMEC support in addressing the following issues: (continued)
 - *Does the current guide reflect or exceed current ANSI or other related standards requirements?*
 - *Is time synchronization a component of accurate time of use metering?*
 - *Should there be tiers of accuracy, test, etc. requirements based on voltage, load, usage (ex. Normally open ties)*
 - *How about ties less than 115kv.*
 - *What metering facilities exist that do not meet requirements detailed in the guide.*
 - *If there are exceptions, how should they be approved and controlled?*
 - *Other factors which may affect metering accuracy?*

NYISO Metering Review

✓ Bottom line

- *Is the current metering adequate for*
 - ✧ **The current 12 month billing cycle?**
 - ✧ **A 4 month cycle?**
 - ✧ **A shorter cycle?**
- *What will it take regarding metering accuracy to get to a shorter billing cycle?*