

**Metering Task Force**  
**PJM Conference & Training Center**  
**November 13, 2015**  
**9:00 a.m. – 3:30 p.m. EST**

## Administration

1. PJM Introductions completed.

## Purpose of Metering Task Force

4. Mr. Nice presented the purpose of the MTF including the OC approved Problem Statement & Issue Charge. The task force agreed that we need to better define meter terms including operational, revenue, real time (RT), transmission, and generator.
5. Ms. Huang reviewed the MTF charter. There was a suggestion to added clarification to the charter regarding operational and revenue meters. We came to a consensus on the charter language which will be reviewed by Ms. Huang at the next available OC meeting. As a follow up, a report of the MTF will be provided to the MSS and/or the MIC.
6. Ms. Huang led the work plan discussion. Future meeting dates will be corrected.

## Education

7. Ms. Huang reviewed the consensus based issue resolutions process.
8. Mr. Nice led the discussion on ANSI and IEEE standards for metering components. Ryan presented standard from both IEEE and ANSI. The task force will be responsible for defining terms such as “accuracy” and “full load”. The task force recommended considering standards IEEE C93.1 and IEEE 5713.6.
9. Ms. Fahr conducted a review of peer ISO/RTO metering standards and practices. The task force is interested in identifying who’s responsibility it is to maintain or check meters. PJM stated that generally we look at meters 100kV and higher but will monitor lower where needed. In general, if it impacts PJM then it could be metered but should be addressed in Manual 01. Member also suggested evaluating the impact of the FERC new order about five minute interval settlement on metering requirements.
10. Mr. Ellis (PSEG) presented on metering infrastructure costs and policies. Discussed the implementation of settlement meter accuracy, relays and check meters. Discussed costs for new construction vs. retrofit. PJM prefers accurate metering regardless of the source device. Also discussed the current role of backup meters and the accuracy requirement for backup meters .
11. Mr. Nice & Mr. Kuras discussed the NERC BAL, TO/TOP Matrix and history of PJM’s metering policy and technical justification. Discussed the existing grandfather clause of all metering installed before 1997. The task force needs clarification on the way accuracy is measured. Concern presented about FERCs requirement for 5 minute settlements.

13. Ms. Derin reviewed the standard calculation method for metering system accuracy. Questions and objections were raised about the maintenance cost estimated by PJM in its analysis. Existing equipment could cost more to upgrade than purchasing new equipment.
14. Mr. Nice discussed metering accuracy and coverage impact on SE accuracy. Discussion of observability and non-observability – add more meters where existing meters can't be upgraded. Questioned the members on the cost effectiveness of installing new meters instead of retrofitting existing meters. Members indicated that many CT's are embedded into equipment and would be very costly to upgrade.
15. Mr. McComb discussed the financial Costs of SE accuracy (LMP and loss calculations).
16. Mr. Hoffman and Mr. Caven discussed tie line meter new categorization. PJM stated that a dual port RTU is preferred. PJM stated Manual 01, section 5.3.5. PJM Slide 10 for Manual 01, could be one of the most important pieces for this task force with regard to tie lines. The task force recommended separating revenue and operational metering definitions and requirements in Manual 01.

## Future Agenda Items

17. Ms. Huang discussed future agenda and action items.

## Future Meeting Dates

December 16, 2015	9:00 a.m.	PJM Conference & Training Center/ WebEx
January 8, 2016	9:00 a.m.	PJM Conference & Training Center/ WebEx
February 16, 2016	9:00 a.m.	PJM Conference & Training Center/ WebEx
March 11, 2016	9:00 a.m.	PJM Conference & Training Center/ WebEx

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### Issue Tracking:

Below is the issue tracking link for the Metering Task Force.

<http://www.pjm.com/committees-and-groups/issue-tracking/issue-tracking-details.aspx?Issue={F6BB6E1E-AD77-48BB-B6F4-5E8D21CB828D}>

## In Attendance (In Person)

Last Name	First Name	Company	Sector
Anderson	Jay	Commonwealth Edison Company	Transmission Owner
Caven	Augustine	PJM Interconnection, LLC	Not Applicable
Cianfarani	Adam	ITC Interconnection LLC	Other Supplier
Connell	Jason	PJM Interconnection, LLC	Other Supplier
Derin	Zehra Bilge	PJM Interconnection, LLC	Not Applicable
Ellis	David	Public Service Electric & Gas Company	Transmission Owner
Fahr	Suzie	PJM Interconnection, LLC	Not Applicable
Frohnert	Rick	Duquesne Light Company	Transmission Owner

Hagaman	Derek	GT Power Group	Not Applicable
Hoffman	Jeffrey	PJM Interconnection, LLC	Not Applicable
huang	nancy	PJM Interconnection, LLC	Not Applicable
Kogut	George	New York Power Authority	Other Supplier
Kovler	Ed	PJM Interconnection, LLC	Not Applicable
Kuras	Mark	PJM Interconnection, LLC	Not Applicable
McCombIII	John	PJM Interconnection, LLC	Not Applicable
Pratzon	David	GT Power Group	Not Applicable
Reed	John	FirstEnergy Solutions Corp.	Transmission Owner
Roeder	William	Talen Energy Marketing, LLC	Generation Owner
Samborsky	Mark	American Electric Power Company, Inc.	Not Applicable
Tewksbury	Cleyton	Sapphire Power Marketing, LLC	Generation Owner
Weidner	Jon	PPL Electric Utilities Corp. dba PPL Utilities	Transmission Owner
Wells	Michael	Dominion Virginia Power	Not Applicable
Werner	Christopher	Appalachian Power Company	Transmission Owner

## In Attendance (Teleconference)

Last Name	First Name	Company	Sector
Abate	Stephen	Duquesne Light Company	Transmission Owner
Anders	David	PJM Interconnection, LLC	Not Applicable
Baranowski	John	PJM Interconnection, LLC	Transmission Owner
Beeker	Rodney	East Kentucky Power Cooperative, Inc.	Transmission Owner
Borkoski	Justin	American Transmission Systems, Inc.	Transmission Owner
Bowers	Troy	Duke Energy Ohio, Inc.	Electric Distributor
Brubaker	Marge	PEPCO Holdings	Transmission Owner
Bucci	Cindy	Southern Maryland Electric Cooperative	Electric Distributor
Budney	Dave	PJM Interconnection, LLC	Not Applicable
Cain	Paul	Raven Power	Electric Distributor
Campbell	Gregory	Commonwealth Edison Company	Not Applicable
Carmean	Greg	OPSI	Not Applicable
Cocchiarale	Frank	AEP	Electric Distributor
Cook	Patrick	Potomac Electric Power Company	Transmission Owner

Coyne	Suzanne	PJM Interconnection, LLC	Not Applicable
Crawford	Bryan	Potomac Electric Power Company	Not Applicable
Csonka	joe	FirstEnergy Corporation	Generation Owner
Dessender	Harry	Customized Energy Solutions, Ltd.*	Transmission Owner
Dobbins	Charles	American Municipal Power, Inc.	Generation Owner
Dunn	Nathaniel	AEP Appalachian Transmission Company, Inc.	Not Applicable
Filomena	Guy	Customized Energy Solutions, Ltd.*	Transmission Owner
Glatz	Suzanne	PJM Interconnection, LLC	Transmission Owner
Greening	Michele	Talen Energy Marketing, LLC	Not Applicable
Harchick	Jason	Duquesne Light Company	Electric Distributor
Hartman	Gary	Talen Energy Marketing, LLC	Electric Distributor
Heise	Randi	Dominion Virginia Power	Transmission Owner
Hemmert	John	Dayton Power & Light Company (The)	Generation Owner
Hohlbaugh	Doug	FirstEnergy Solutions Corp.	Transmission Owner
Johnson	Carl	Customized Energy Solutions, Ltd.*	Transmission Owner
Juhrden	Jane	Atlantic City Electric Company	Electric Distributor
Kingston	Amber	North Carolina Electric Membership Corporation	Transmission Owner
Kozlowski	David	UGI Utilities, Inc.	Other Supplier
LEE	TINA	Cogen Technologies	Electric Distributor
Marton	David	FirstEnergy Solutions Corp.	Transmission Owner
McAnany	James	PJM Interconnection, LLC	Transmission Owner
Miller	Michael	FirstEnergy Solutions Corp.	Not Applicable
Petrella	James	Vineland Municipal Electric Utility	Not Applicable
Ploeger	Charlie	Duke Energy Ohio, Inc.	Other Supplier
Price	Dann	Constellation NewEnergy, Inc.	Electric Distributor
Reid	Ryan	Buckeye Power, Inc.	Transmission Owner
Russ	Michael	Dayton Power & Light Company (The)	Transmission Owner
Salem	Jay	Pennsylvania Electric Company	Electric Distributor
Samborsky	Mark	AEP	
Sasser	Jonathan	Customized Energy Solutions, Ltd.*	
Schneider	Kirk	American Electric Power Company, Inc.	
Scoglietti	Barbara	Tangent Energy Solutions, Inc.	
Shaffer	Brian	Atlantic City Electric Company	
Shaffer	Brian	PEPCO Holdings	
Smith	William	FirstEnergy Solutions Corp.	
Solic	Anthony	Ohio Edison Company	
Weiss	Glenn	PJM Interconnection, LLC	
Welty Jr	Peter	Easton Utilities Commission	



# Minutes

Wiegand

Mark

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