

**Data Management Subcommittee – Phasor Data Quality Special  
PJM Conference and Training Center  
September 19, 2018**

## Administration

- Introductions and Roll Call conducted in room and on phone.
- Draft Agenda approved
- Meeting Minutes from August 22, 2018 approved
- SynchroPhasor Support:
  - Email: [PJMSynchroPhasorSupport@pjm.com](mailto:PJMSynchroPhasorSupport@pjm.com), [PMUPlacement@pjm.com](mailto:PMUPlacement@pjm.com)
  - Web Link: [PJM SynchroPhasor Technology](#)

## Education

- PMU Placement Strategy: Mr. David Hislop ([David.Hislop@pjm.com](mailto:David.Hislop@pjm.com), 610.666.4242) provided an overview of PMUs at PJM and also addressed PMU placement strategy, PMU sources, proposed PMU placement priority values, PMU locations and contacts, and PJM's current strategy. Mr. Trump (PPL) noted his company's struggles with not having use cases to support PMUs and the challenges this poses. Mr. Cary Schneider (AEP) noted he is willing to share AEP's use cases with Mr. Trump. Mr. Schneider noted that AEP's process is simple to add PMU's, but would like to meet with PJM to discuss further. Mr. Schneider further noted that AEP is putting together a placement strategy that's Planning-based and leveraging their linear state estimation via a tool; PMU data will be used to support this in the future. Mr. Murphy confirmed PJM's intent to conduct site visits to TOs in the near future to discuss phasors, placement, and various other topics of value. PJM contact information will be provided to all with meeting notes, and members are encouraged to reach out to PJM contacts for any questions or feedback.
- Oscillation Detection: Mr. Subbarao Eedupuganti ([Subbarao.Eedupuganti@pjm.com](mailto:Subbarao.Eedupuganti@pjm.com), 610.666.4326) presented on PJM Phasor Goals through 4Q/2018, and noted an important use case at PJM is for oscillation detection.
- Review of Phasor Training Delivered to PJM Operators: Mr. Bill O'Brien ([William.O'Brien@pjm.com](mailto:William.O'Brien@pjm.com), 610.666.4563) provided an overview of phasor training that was delivered at system operator training in Feb. 2018.
- PJM Reliability Engineer to review how we use Phasor Data: Mr. Yuriy Grytsulyak ([Yuriy.Grytsulyak@pjm.com](mailto:Yuriy.Grytsulyak@pjm.com), 610.666.4483) addressed how REs use phasor data and provided display images used to identify islands and views of generator output. Mr. Grytsulyak outlined how bad data quality impacts displays and impedes on REs to investigate bad data quality issues and takes them away from real-time issues. Mr. Murphy elaborated on additional impacts that bad data quality has on real-time support. Mr. Carey Schneider (AEP) asked how these issues are displayed in PJM's control room and Mr. Grytsulyak advised that DIMA is helpful and an IEP tool detects and alarms RTDMS and REs. Plan is add more alarms in this regard.
- Latency Overview: Mr. Erkan Tuna ([Erkan.Tuna@pjm.com](mailto:Erkan.Tuna@pjm.com), 610.666.8273) presented on how latency affects phasor data in the system and downstream applications. Mr. Adam Veno (AEP) asked about requirements for latency ranges and Mr. Tuna advised that no PJM requirements apply in this regard.

Each TO should identify their own latency range and communicate that to PJM. This helps PJM to better understand phasor data quality reports. Mr. Nick Scurria (PECO) asked if PJM could send a tech out to each facility to check latency, and Mr. Tuna advised that resource challenges exist at PJM in this regard, but will take the suggestion under advisement, realizing this would be an asset for TOs. Mr. Murphy supported Mr. Tuna's comments and noted how PJM is working to get things right ongoing, understanding our own challenges as well as TO challenges. Mr. Carey Schneider (AEP) asked if they could look at the priority list of point system to identify which ones could be done first, as well as guidance on prioritization would be very helpful.

- Outage Reporting Guidelines: Mr. Erkan Tuna presented on reporting guidelines for phasor outages. Mr. Brady Johnson (AEP) asked about PJM turnaround time on reporting, and Mr. Tuna advised 1-2 hours is average. Minimum time to report outage due to test was asked as well, and Mr. Tuna advised if it's planned to let us know a couple of days in advance but if outage occurs real time, PJM should be notified immediately.

## Reports and Manuals:

- Phasor Data Quality Flags: Mr. Erkan Tuna presented on quality indicators to better understand errors based on status word bits and error types.
- Weekly Data Quality Report Overview: Mr. Tuna's presentation focused on quality reports and how error codes addressed above support better troubleshooting.
- DataNxt Demo: Mr. Shaun Murphy ([Shaun.Murphy@pjm.com](mailto:Shaun.Murphy@pjm.com), 610.666.4334) walked through a presentation/demo of DataNxt. Mr. Carey Schneider (AEP) asked about a requirements document from PJM and Mr. Murphy noted only requirement is new generator over 100MW must include a PMU.
- M01, Section 3.3: Ms. Suzie Fahr ([Suzie.Fahr@pjm.com](mailto:Suzie.Fahr@pjm.com), 610.666.4555) reviewed existing manual language in M01 and proposed that this section be revised, as previously mentioned at the 8/22/2018 meeting. The purpose of this effort to improve data quality and identify realistic data quality thresholds. All are asked to consider this will be discussed further at the upcoming 10/17/2018 meeting. Mr. Carey Schneider (AEP) asked about specific format to store import of data, and Mr. Mike Luna advised that it is now.csv, but we will reach out to confirm this and discuss at 10/17/2018 meeting. Mr. Luna asked how data is stored today at AEP and Mr. Vena advised it's stored in a SQL database. Mr. Murphy added that one thought would be to split out data ability vs. data accuracy.

## Group Discussion Topics

- Due to time constraints, Group Discussion Topics will be added to October 17, 2018 meeting agenda. (See Future Agenda Items below.)

## Future Agenda Items

1. Proposal of M01 Updates
2. TO Testimonials
3. Review Reports
4. Group Discussion Topics
  - What DQ issues have you seen, and how have you worked to address them?
  - Use of PMU data in Operations? Barriers?
  - PMU Installations – Updates at your company?

- RTDMS – Who is using it? What issues are you currently having with it?

## Attendance:

Last Name	First Name	Company Name
Bray	Glen	PPL
Grewal	Harry	FE
Johnson	Brady	AEP
Kemper	Jacob	DUQ
Morehouse	Jeff	PPL
Schneider	Carey	AEP
Scurria	Nicholas	PECO
Stoppelwerth	Greg	DEOK
Tates	David	FE
Trump	Drew	PPL
Veno	Adam	AEP
Baptiste	Maria	PJM
Eedupuganti	Subbarao	PJM
Fahr	Suzie	PJM
Grytsulyak	Yuriy	PJM
Hislop	David	PJM
Luna	Michael	PJM
Murphy	Shaun	PJM
O'Brien	Bill	PJM
Tuna	Erkan	PJM

Provide feedback on the progress of this group: [Facilitator Feedback Form](#)  
 Visit [learn.pjm.com](http://learn.pjm.com), an easy-to-understand resource about the power industry and PJM's role.