

# **IEEE Synchrophasor Related Activities at Power System Relaying and Control Committee (PSRC) and Power System Communications and Cybersecurity Committee (PSCCC)**

NASPI Work Group In-Person Meeting and Vendor Show

Minneapolis, MN

April 2025

Presented by: Yi Hu (Quanta Technology)



# IEEE PSRC/PSCCC January 2025 Meeting Report

- One hybrid IEEE PES Joint Technical Committee Meeting (JTCM) including PSRC and PSCCC was held since NASPI's October 2024 meeting
  - Garden Grove, California, January 12-16, 2025
- PSRC WG C23 (Coordination of Synchrophasor Related Activities) held a meeting at 2025 JTCM
  - Reviewed NASPI current activities as of October 2024 at the meeting, and informed attendees about the upcoming April 2025 NASPI meeting
  - At the January meeting, attendees were informed about the new CTF55 (Investigate the industry need for a relevant standard or report for Synchro-Waveform/ Continuous Point-On-Wave/Synchronized Measurement) meeting and were encouraged to attend if interested
- C37.247-2019, "IEEE Standard for Phasor Data Concentrators for Power Systems", is up for review whether any update should be made
  - A new task force CTF57 has been formed to "Investigate the need to revise IEEE Std C37.247"
  - It plans to have the first meeting in September PSRC/PSCCC meeting

# Current Related Activities at IEEE PSCCC

Lead By	Activity Description	Status
PSCCC WG P1	Amend IEEE C37.238 “Standard Profile for Use of IEEE 1588 Precision Time Protocol in Power System Applications” – Adding a TLV to indicate the latest IERS-specified UTC Leap Second Event.	Amendment for C37.238-2017 has been published as C37.238a-2023 in December 2023.
PSCCC WG P9	Revise the IEEE C37.118.2 standard “Synchrophasor Data Transfer for Power Systems”	The updated standard has been published in December 2024.
PSCCC WG P10	Develop an IEEE standard 2664 for Streaming Telemetry Transport Protocol (STTP)	The standard has been published in August 2024.
PSCCC WG P20	Joint Revision of IEC 61850-9-3 for timing requirements	Review/discuss latest draft revision
PSCCC WG S8	Develop an “IEEE Guide P2658 for Cybersecurity Testing in Electric Power Systems”	To be balloted.
PSCCC WG S15	Develop an “IEEE Guide for Securing GOOSE and SV Protocols of IEC 61850 using IEC 62351-6 and IEC 62351-9”	Draft guide development.

# Current Related Activities at IEEE PSRC

Lead By	Activity Description	Status
<b>WG C23</b>	<b>Coordinate synchrophasor related activities at NASPI and IEEE</b>	<b>On-going</b>
PSRC WG C40	Develop a tutorial for C37.247 “IEEE Standard for Phasor Data Concentrators for Power Systems”	Tutorial is ready. Looking for proper venue for it.
PSRC WG C41	Develop a report summarizing measurement performance requirements for PMUs in distribution system applications	Currently in C subcommittee review and approval process.
PSRC WG C46	Prepare a summary transactions paper for C37.242 “IEEE Guide for Synchronization, Calibration, Testing, and Installation of Phasor Measurement Units (PMUs) for Power System Protection and Control”	Paper has been published on “IEEE Transactions on Power Delivery”, Volume 39, Issue 3, June 2024
PSRC CTF55	Investigate the industry need for a relevant standard or report for Synchro-Waveform/Continuous Point-On-Wave/Synchronized Measurement	Held the 2nd meeting in January 2025. Will hold 3rd meeting in May 2025.
PSRC WG H40	Develop an “IEEE Guide for Databases used in Utility Automation Systems” (C37.1.2) that has an annex on Synchrophasor Data Recording	The PAR has been extended from the end of 2024 to the end of 2026.
PSRC WG H50	Develop a report to document requirements for time sources (clocks) in protection & control systems	Work on-going.
PSRC WG H54	Revise IEEE C37.111-2013/IEC 60255-24:2013 Standard for Common Format for Transient Data Exchange (COMTRADE)	Working on revisions.

# Current Of-Interest Activities at IEEE PSRC

Lead By	Activity Description	Status
PSRC WG C43	Develop a report on “Practical Applications of Artificial Intelligence and Machine Learning in Power System Protection and Control”	1st version published 9/21/23, 2nd version outline developed
PSRC WG D45	Develop a report on “Protection Methods to Reduce Wildfire Risks due to Transmission and Distribution Lines”	Drafted report in ballot stage.
PSRC WG H44	Develop C2030.100.1 “IEEE Guide for Monitoring and Diagnostics of IEC 61850 GOOSE and Sampled Values Based Systems”	Expect to start balloting in 2025.
PSRC WG H45	Develop C37.300 “IEEE Guide for Centralized Protection and Control (CPC) Systems within a Substation”	The PAR has been extended from the end of 2024 to the end of 2026.
PSRC WG H52	Revise IEEE C37.232 “Standard for Common Format for Naming Time Sequence Data Files (COMNAME)”	Working on the items identified to be revised
PSRC WG I26	Recommend updating/expanding mathematical models of instrument transformers/transducers, including interface electronics such as merging units, for use in off-line and real time transient simulation.	Report has been published as IEEE PES Report TR-117 in November 2023.



# Any NASPI Recommended Activities for IEEE?

- IEEE PSRC and PSCCC are responsible for developing IEEE standards, IEEE guides, and IEEE recommended practices.
  - If any need for potential IEEE standard development work has been identified, please reach out to me – Will be happy to coordinate
- IEEE PSRC also develop many technical reports accessible at IEEE PES Resource Center (<https://resourcecenter.ieee-pes.org/>)

# Upcoming PSRC/PSCCC Meetings

May 12 – 15, 2025

Portland, Oregon, USA

September 8 – 11, 2025

Richmond, Virginia, USA

<https://pesttechnical.org/>

<https://www.pes-psrc.org/meetings>

# Questions?

Yi Hu (IEEE PES PSRC WG C23 Chair)

[YHu@quanta-technology.com](mailto:YHu@quanta-technology.com)