

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

NASPI Work Group Hybrid Meeting and Vendor Show

Charlotte, North Carolina

October 15-16, 2024

Presented by: Yi Hu (Quanta Technology)

IEEE PSRC/PSCCC May & September 2024 Meeting Report

- Two IEEE PES PSRC (in-person) and PSCCC (hybrid) meetings were held since NASPI's April 2024 meeting
 - Buffalo, New York, May 13-16, 2024
 - Scottsdale, Arizona, September 9-12, 2024
- PSRC WG C23 (Coordination of Synchrophasor Related Activities) May 2024 and September 2024 meetings
 - Reviewed NASPI current activities as of April 2024 at both meetings, and informed attendees about the upcoming October 2024 NASPI meeting
 - At the May 2024 meeting, further discussion related to synchronized measurement data has led to the recommendation to establish and the approval of a new task force (CTF55)
 - At the September 2024 meeting, attendees were informed about the new CTF55 and were encouraged to attend if interested

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” | Ballot has been completed. To be published soon. |
| PSCCC WG P10 | Develop an IEEE standard 2664 for Streaming Telemetry Transport Protocol (STTP) | 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 S5 | Revise IEEE C37.240 standard “Cybersecurity Requirements for Power System Automation, Protection and Control Systems” | WG inactive since September 2023. |
| 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 |
|----------------|--|--|
| WG C23 | Coordinate synchrophasor related activities at NASPI and IEEE | On-going |
| 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 | First draft complete. |
| 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 | Had the first meeting in September 2024. |
| 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 | Has been in ballot resolution and expected to finish by the end of 2024. |
| PSRC WG H50 | Develop a report to document requirements for time sources (clocks) in protection & control systems | Draft development |
| 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” | Draft report development. |
| 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” | 1 st round ballot comment resolution near completion. |
| PSRC WG H51 | Revise IEEE C37.239-2010 “Standard on a Common Format for Event Data Exchange (COMFEDE)” | Inactive since September 2023. |
| PSRC WG H52 | Revise IEEE C37.232 “Standard for Common Format for Naming Time Sequence Data Files (COMNAME)” | In the process of gathering inputs on areas to revise |
| 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 and PSCCC also develop many technical reports accessible at IEEE PES Resource Center (<https://resourcecenter.ieee-pes.org/>)

Next PSRC/PSCCC Meetings

PES Joint Technical Committee Meeting (JTTCM)

January 12 – 16, 2025

Garden Grove, California, USA

<https://pestechnical.org/>

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

Questions?

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