


**Chair:** Murty Yalla  
**Vice-Chair:** Michael Thompson  
**Secretary:** Gene Henneberg  
**Standards Coordinator:** Don Lukach

## SIGNIFICANT ACCOMPLISHMENTS IN 2022

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- ❖ **Standards, Guides & Reports Approved by SA in 2022** (PSRC Committee maintains about 60 IEEE standards, guides, and recommended practice documents)
    - C37.2-2022 IEEE Standard for Electrical Power System Device Function Numbers, Acronyms, and Contact Designations.
    - C37.104-2022 Guide for Protection Consideration for Single Phase Tripping and Reclosing of Distribution Lines. (published)
    - C37.106-2022 IEEE Guide for Abnormal Frequency Protection for Generating Units.
    - Technical Report, Modeling of Generator Controls for Coordinating Generator Relays (TR95), Feb 2022.
    - Technical Report, “Reviewing the new IEEE C37.250 Guide for Engineering, Implementation, and Management of System Integrity Protection Schemes (TR101)”, Sept 2022.
  - ❖ **Presentations made at PES General Meeting; JTCM; CIGRE; Western, Georgia Tech, and Texas A&M Protective Relay Conferences:**
    - Role of Protective Relaying in a SMART GRID.
    - Reviewing the New IEEE C37.250 Guide for Engineering, Implementation, and Management of SIPS, Gene Henneberg
  - ❖ **Supported PES meetings**
    - PES General Meeting 14 papers given; PSRC sponsored 1 panel session; 1 Tutorial.
    - PES T & D Conference 4 papers and 1 Tutorial given.
  - ❖ **Pac World Magazine**
    - Cathy Dalton authored four articles and Murty Yalla authored one article.

## BENEFITS TO INDUSTRY AND PES MEMBERS

- ❖ These activities keep our industry up to date with technology, improve power system reliability, and help solve the most common protective relaying problems.
  - We are working on cybersecurity and standards with NERC, PES and IEC.
  - We are addressing grid stability with guides and standards in protection, control, and communication.
  - Our meetings allow significant interaction between the PSRC, NERC, CIGRE, IEC and PES to share our interest, knowledge, and accomplishments.

## BENEFITS TO VOLUTEER PARTICIPANTS

- ❖ Working Groups and Task Forces provide fertile ground for participants to increase their personal knowledge. Their companies enjoy more personal productivity from their employees and contribute to the standards and practices of our industry.

## OUTSTANDING PERFORMANCE RECOGNITION

- ❖ PSRC Members inducted to US National Academy of Engineering in 2022
  - Mladen Kezunovic, *For contributions to automated analysis of power system faults, and leadership in education in protective relaying.*
  - Solveig Ward, *For contributions to electric power system protective relaying, and new data communication technologies.*
  - Murty V.V.S. Yalla, *For contributions to digital protection and control devices for the grid.*
- ❖ PSRC Distinguished Service Awards
  - Charlie Henville 2019
  - Russ Patterson 2020
- ❖ IEEE SA Awards
  - IEEE C37.104-2022, IEEE Guide for Automatic Reclosing on AC Distribution and Transmission Lines, Brian Boyson, Chair.
  - IEEE C37.230-2020, Guide for Protective Relay Applications to Distribution Lines; Brian Boyson, Chair.
- ❖ PSRC Outgoing Chair: Russ Patterson 2019-2020

## COORDINATION WITH OTHER ENTITIES

- ❖ IEEE Standards Association Board of Governors: Phil Winston serving.
- ❖ IEC TC 95: Murty Yalla serving as chair.
- ❖ IEC TC 95: Eric Udren is Technical Advisor and Normann Fischer is Deputy Technical Advisor to USNC.
- ❖ IEC TC 95, IEC standard 60255-187-3 supported by PSRC WG D34, Normann Fischer, chair.
- ❖ IEC TC 95: IEC Standard 60255-216-1. PSRC WG H47 has liaison.
- ❖ IEC TC 95, IEC Standard 60255-24/JWG w/PSRC C37.111 COMTRADE dual logo revision project being started.



- ❖ IEC TC 95: Functional and Product Design Standards 60255-1, -26, and -27. PSRC WG's - and experts now coordinate IEEE and IEC content and contribute to IEC drafts for consistent requirements.
- ❖ IEC TC 57: WG 10 continues to develop IEC 61850 Edition 2.1. Convenor is Christoph Brunner.
- ❖ CIGRE B5: Mladen Kezunovic is now the US Regular Member.
- ❖ CIGRE B5.69 Experience gained and Recommendations for Implementation of Process Bus in Protection, Automation and Control Systems (PACS). Work in progress. Convenor is Alex Apostolov.
- ❖ CIGRE B5.53 Test Strategy for Protection, Automation and Control (PAC) functions in a full digital substation based on IEC 61850 applications. Work in progress. Convenor is Alex Apostolov.
- ❖ CIGRE Technical Brochure 843: Life Cycle Testing of Synchrophasors Based Systems now available free to members.
- ❖ PSRC regularly met during 2022 with several subcommittees of the Substation and Power System Communications and Cybersecurity Committee.
- ❖ PSRC participated in the PES JTCM for the 15th year.
- ❖ PSRC is in consistent liaison with NERC, IEC, EPRI, CIGRE and IAS.
- ❖ Joint Committee Standards that PSRC Supports:
  - P2800 Standard for Interconnection and Interoperability of Inverter Based Resources Interconnecting with Associated Transmission Electric Power Systems.
  - P2800.2 Recommended Practice for Test and Verification Procedures for Inverter-based Resources (IBRs) Interconnecting with Bulk Power Systems.
  - P1854 Guide for Smart Distribution Applications
  - P0018 Standard for Resilient Positioning, Navigation and Timing (PNT) End-User Equipment.
  - PC37.431.20 Guide for Modern Protection System for Static Var Compensators.
- ❖ Industry Technical Support Leadership Committee (ITSLC) support
  - Murty Yalla is a member of the ITSLC and a liaison between PES and NERC. PSRC nominated several members to the IEEE PES/NERC Joint Task Force that developed IEEE PES Technical Report "Towards Integrating Cyber and Physical Security for a More Reliable, Resilient, and Secure Energy Sector (TR105)"
  - PSRC committee also nominated several members to the newly formed Task Force developing "Joint IEEE-NERC Technical Report on EMT Modeling and Studies for Inverter-Based Resources.

## GLOBAL INVOLVEMENT

Regions 8,9 & 10	Total Number
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Attendees	18
Main Committee Members	1
Officers	0
Subcommittee Officers	0
Subcommittee Members	1

### NEW TECHNOLOGIES OF INTEREST

- ❖ Cybersecurity
- ❖ Wide range grid data collection with Synchrophasors
- ❖ Smart Grid Initiatives
- ❖ Grid stability under stressed conditions
- ❖ Inverter based resources

### SIGNIFICANT PLANS FOR 2023

- ❖ JTCM January 9-12, Jacksonville, FL (Hybrid)
- ❖ Other PSRC meetings:
  - May 8-11, Las Vegas, NV
  - September 18-12, Myrtle Beach, SC
- ❖ Joint meetings with subcommittees of Substations and Power System Communications and Cybersecurity committee.
- ❖ PSRC will continue to support the Power System Communications and Cybersecurity Committee and meet with them jointly.
- ❖ PSRC committee is planning to support at least one hybrid meeting per year.

### PROBLEMS/CONCERNS

- ❖ None

Submitted by: Murty Yalla

January 31, 2023