

**IEEE Power and Energy Society  
PSRC Annual Report 2019**

**Power System Relaying and Control Committee**

**Chair: Russ Patterson**

**Vice-Chair: Murty Yalla**

**Secretary: Mike Thompson**

- I. **Significant Accomplishments in 2019**
  - A. **Standards, Guides & Reports Approved and Published in 2019**
    1. **C37.247: “Standard for Phasor Data Concentrators for Power Systems”**
  - B. **Presentations made at PES General Meeting; JTCM; CIGRE; Western, Georgia Tech, and Texas A & M Protective Relay Conferences:**
    - **“Exploring IEEE C37.246-2017 Guide for Protection Systems of Transmission-to-Generation Interconnections.”**
    - **“Synchrophasor Measurements for Power Systems Under the Standard IEC/IEEE 60255-118-1.”**
  - C. **PSRC Publications completed & posted on the PSRC website and PES Technical Resource:**
    - **“Exploring IEEE C37.246-2017 Guide for Protection Systems of Transmission-to-Generation Interconnections”**
    - **“Geomagnetic Disturbances (GMD) Impact on Protection Systems”**
    - **PES-TR71 Microgrid Protection Systems.**
    - **PES-TR68 Impact of Inverter Based Generation on Bulk Power Systems Dynamics and Short Circuit Performance.**
  - D. **Supported PES meetings:**
    1. **PES General Meeting: 23 conference and 25 transaction papers presented.**
  - E. **Cathy Dalton generated three articles for Pac World magazine.**

**IEEE Power and Energy Society  
PSRC Annual Report 2019**

**II. Benefits to Industry and PES Members:**

- A. These activities keep our industry up to date with technology, improve power system reliability, and help solve the most common protective relaying problems.**
- B. 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.**
- C. Our meetings allow significant interaction between the PSRC, NERC, CIGRE, IEC and PES to share our interest, knowledge, and accomplishments.**

**III. Benefits to Volunteer Participants:**

**84 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.**

**IV. Outstanding Performance Recognition:**

- A. IEEE Fellows: Jonathan Sykes.**
- B. 2019 PSRC Young Professional Award to Rick Gamble**
- C. IEEE-SA Award for revision of C37.112 IEEE Standard “Inverse-Time Characteristic Equations for Overcurrent Relays”; Randy Crelin, Chair and Michael Thompson, Vice Chair.**
- D. IEEE SA Standards Medallion Awards to Pratap Mysore.**
- E. PSRC 2019 Career Service Award to Steve Conrad.**
- F. PSRC Prize Paper Award to Mukesh Nagpal and Charles Henville, “Impact of Power-Electronic Sources on Transmission Line Ground Fault Protection”.**
- G. PES WG Outstanding Technical Report goes to Kevin Jones and Gary Kobet for “PES-TR68 Impact of Inverter Based Generation on Bulk Power Systems Dynamics and Short Circuit Performance.” This was a collaboration between IEEE/PSRC and NERC.**
- H. PSRC Outstanding Technical Report to Joe Mooney, Chair and Ian Tualla, Vice Chair, “Impact of Voltage Source Converter (VSC) Based HVDC Transmission of AC System Protection”.**
- I. PSRC Recognition Award for Outgoing Subcommittee Chair to Don Lukach.**
- J. PSRC Certificates of Appreciation to Chairs of Completed Working Groups: Alex Apostolov, Mike Reichard, Alla Deronja, Joe Mooney,**

**IEEE Power and Energy Society  
PSRC Annual Report 2019**

Farnoosh Rahmatian, Bruce Magruder, Jim Niemira, Rafael Garcia, Roy Moxley.

- K. PSRC Distinguished Service Awards to Adi Mulawaman and Pratap Mysore.
- L. PES Award to Solveig Ward for her service as the JTCM Planning Chair for 2018.
- M. PSRC Sponsor Recognition Award in 2018 to MidAmerican Energy Company.
- N. Edmond O. Schweitzer III inducted into the National Inventors Hall of Fame in 2019.
- O. Eric Udren is selected to the National Academy of Engineers in 2019.
- V. Coordination with Other entities:
  - A. IEEE Standards Association Board of Governors: Phil Winston serving.
  - B. IEC TC 95: Murty Yalla serving as chair.
  - C. IEC TC 95, IEC standard 60255-187-3 supported by PSRC WG D34, Norman Fischer, chair.
  - D. IEC TC 57: WG 10 continues to develop IEC 61850 Edition 2.1. Convenor is Christoph Brunner.
  - E. IEC TC 95: Eric Udren is Technical Advisor to USNC.
  - F. CIGRE B5.69 Work in progress. Convenor is Alex Apostolov.
  - G. CIGRE B5.66 Work in progress. Convenor is Dennis Holstein.
  - H. CIGRE B5.53 Work in progress. Chairman is Alex Apostolov.
  - I. PSRC regularly met during 2018 with several subcommittees of the Substation and Power Systems Communications committees.
  - J. PSRC participated in the PES JTCM for the 12th year.
  - K. PSRC is in consistent liaison with NERC, IEC, EPRI, CIGRE and IAS.
- VI. New Technologies of Interest:
  - A. Cybersecurity.
  - B. Wide range grid data collection with Synchrophasors.
  - C. Smart Grid Initiatives.
  - D. Grid stability under stressed conditions.
  - E. Inverter based resources.
- VII. Significant Plans for 2020:
  - A. January 12-16: JTCM in Jacksonville, FL.
  - B. Other PSRC meetings: May in Nashville, TN; September in Reno, NV.

**IEEE Power and Energy Society  
PSRC Annual Report 2019**

- C. Joint meetings with subcommittees of Substations and Power System Communications Committees.**
  - D. PSRC will continue to support the new Power System Communications and Cybersecurity Committee, and meet with them jointly.**
  - E. PSRC will present the tutorial, “Advancements in Protection, Automation, Control and Communications (PACC) at the PES General Meeting in 2020.**
  - F. PSRC will present a tutorial on “Synchronous Generator Protection” at the 2020 Texas A & M Relaying Conference.**
- VIII. Global Involvement:**
- A. Total number of attendees from Regions 8, 9, 10: 7**
  - B. Total number of Main Committee members from Regions 8, 9, 10: 1**
  - C. Officers from Regions 8, 9, 10: 0**
  - D. Subcommittee Officers from Regions 8, 9, 10: 0**
  - E. Subcommittee Members from Regions 8, 9, 10: 1**

**Submitted by: Russ Patterson**

**January 17, 2020**