

**IEEE Power and Energy Society
PSRC Committee Annual Report 2020**

Power System Relaying and Control Committee

Chair: Russ Patterson

Vice-Chair: Murty Yalla

Secretary: Michael Thompson

Standards Coordinator: Don Lukach

- I. **Significant Accomplishments in 2020**
 - A. **Standards, Guides & Reports Approved and Published in 2020**
 1. **C37.250: IEEE Guide for Engineering, Implementation, and Management of System Integrity Protection Schemes.**
 - B. **Presentations made at PES General Meeting; JTCM; CIGRE; Western, Georgia Tech, and Texas A & M Protective Relay Conferences:**
 - **“Methods for Detecting and Analyzing an Open Phase Condition of a Power Circuit to a Nuclear Plant Service or Startup Transformer.”**
 - **“P2800 Update—Interconnection Requirement for PBS-Connected Inverter-Based Resources.”**
 - **“Protection of High-Penetration Distributed PV.”**
 - **Summary of C37.245 2018 “Guide for the Application of Protective Relaying for Phase-Shifting Transformers” at WPRC 2020**
 - C. **PSRC Publications completed & posted on the PSRC website and PES Technical Resource:**
 - **“Protection Challenges and Practices for Interconnecting Inverter Based Resources to Utility Transmission Systems.”**
 - **“Modification of Commercial Fault Calculation Programs for Wind Turbine Generators.”**
 - **“ATP Files Containing to EMTP Reference Models for Transmission Relay Testing Report.”**
 - **“Channel Performance Considerations for Ethernet Circuits Applied to Teleprotection.”**
 - **“Application Testing of IEC 61850 Based Systems.”**

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- **“Improved Generator Ground Fault Schemes.”**
 - **“Application of Out-of-Step Protection Schemes for Generators.”**
 - **“Methods for Detecting and Analyzing an Open Phase Condition of a Power Circuit to a Nuclear Plant Station Service or Startup Transformer.”**
- D. Supported PES meetings:**
- 1. PES Virtual General Meeting: 20 papers given. PSRC sponsored 3 panel sessions.**
 - 2. PES T & D Conference: 8 virtual papers given.**
- E. Cathy Dalton generated four articles for Pac World magazine.**
- 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: Mark Carpenter and Sukumar Brahma**
 - B. PES Charles Concordia Power Systems Engineering Award to Ken Martin**
 - C. PES Excellence in Power Distribution Engineering Award to Tom Beckwith.**
 - D. PES Working Group Award for Outstanding Standard or Guide: IEEE C37.246, “Guide for Protection Systems of Transmission-to-Generation Interconnections.” Alla Deronja (Chair) and Keith Houser (Vice-Chair)**

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- E. PSRC Award presentations are suspended until the next face-to-face meeting. Proper recognition will then be enabled.

- 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, Normann 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 and Normann Fischer is Deputy Technical Advisor to USNC.
 - F. CIGRE B5.69 Work in progress. Convenor is Alex Apostolov.
 - G. CIGRE B5.66 Published. Convenor was Dennis Holstein.
 - H. CIGRE B5.53 Work in progress. Chairman is Alex Apostolov.
 - I. PSRC regularly met during 2020 with several subcommittees of the Substation and Power Systems Communications committees.
 - J. PSRC participated in the PES JTCM for the 13th 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 2021:**
 - A. January 10-14: JTCM (Virtual Meeting via Webex).
 - B. Other PSRC meetings: May 3-6 (virtual); September 20-23 in (location TBA) .
 - 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.

- VIII. **Global Involvement:**
 - A. Total number of attendees from Regions 8, 9, 10: 7

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- 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**

IX. Problems and Concerns:
None

Submitted by: Murty Yalla

January 29, 2021