

**IEEE Power and Energy Society
Entity Annual Report 2011**

Entity: Power System Relaying Committee

Significant Accomplishments in 2011: The PSRC continued its functions by holding three well-attended, successful meetings and by supporting presentations of our output documents at PES and other industry meetings. We continue to see record attendance at our meetings, consistently over 220.

- In January the PSRC participated for the fourth time in a joint technical committee meeting with several other PES Technical Committees. Attendance was affected by a severe storm.
- The PSRC continued to host several subcommittees from both the Power System Communications Committee and the Substation Committee at our other two meetings.
- There were 5 papers presented at the Power Systems Conference and Exposition, all during one poster session.
- At the PES General Meeting the PSRC sponsored 32 technical papers at 4 paper sessions, and 3 papers at one poster session.
- Presentations were made at the Texas A & M Protective Relay Conference, the Georgia Tech Protective Relay Conference and the Western Protective Relay Conference of the following work:
 1. Exploring the IEEE C37.234-2009 Guide for Protective Relay Applications to Power System Buses
 2. Smarter Time Synch: Applying the IEEE PC37.238 Standard to Power System Applications
 3. IEEE PSRC Report on Global Industry Experiences with System Integrity Protection Schemes (SIPS)
 4. H9 Report on Redundancy in Coupling Power Line Carrier Channels to the Power Line
 5. Ancillary Protective and Control Function Common to Multiple Protective Relays
 6. Power System Protection Testing—Exploring the IEEE C37.233 Guide
 7. Overview of the IEEE Standard Defining a Common Format for Event Data Exchange—COMFEDE—IEEE C37.239-2010
- These meetings allowed significant interaction between the PSRC and these other groups to share our interest, knowledge, and accomplishments.

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- **The IEEE Standards Association and PES are actively supporting PSRC in developing new standards for the Smart Grid Initiative.**
 1. **C37.118 and C37.118.2, Standards for Synchrophasor Measurements and Data Transfer for Power Systems.**
 2. **C37.232, Standard for Common Format for Naming Time Sequence Data Files.**
 3. **C37.236, Guide for Power System Protective Relay Applications over Digital Communication Channels.**
 4. **PC37.237, Recommended Practice For Time Tagging of Power System Protection Events.**
 5. **PC37.238 (Published)**
 6. **PC37.239 (Published)**
 7. **PC37.242, Guide for Synchronization, Calibration, Testing, and Installation of Phasor Measurement Units.**
 8. **PC37.243, Guide for Application of Digital Line Current Differential Relays.**
 9. **PC37.244, Guide for Functional Requirements for Phasor data Concentrator.**
- **PSRC is taking a pro-active role in IEC standards activities. For instance, Dr. Murty Yalla is leading Maintenance Team MT4 of IEC TC95, Measuring Relays. Dr. Yalla has also been selected as Deputy Technical Director of TC 95.**

The following standards and guides were accepted by the IEEE Standards Board and published:

- **C37.110/COR1, Guide for Applications of Current Transformers Used for Protective Relaying Purposes.**
- **C37.238, IEEE Standard Profile for use of IEEE 1588 Precision Time Protocol in Power System Applications.**

The following standards and guides were reaffirmed:

- **C37.90, Standard for Relay & Relay Systems Associated with Electrical Power Apparatus.**
- **C37.92, Standard for Low Energy Analog Signal Inputs to Protective Relays.**
- **C37.103, Guide For Differential & Polarizing Relay Circuit Testing.**

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- **C37.119, guide for Breaker Failure Protection of Power Circuit Breakers.**

IEEE and IEC are actively working on Dual Logos for these standards:

- **C37.94, Standard for N Times 64 Kilobit per Second Optical Fiber Interfaces Between Teleprotection and Multiplexer Equipment.**
- **C37.118.1 and C37.118.2, Standards for Synchrophasor Measurements and Data Transfer for Power Systems.**
- **C37.111, Standard Common Format for Transient Data Exchange for Power Systems.**
- **C37.239, Standard Common Format for Event Data Exchange for Power Systems.**

The following Committee Reports were completed and posted on the PSRC web site:

- **“IEEE Tutorial on the Protection of Synchronous Generators.”**
- **“Reducing Outage Durations Through Improved Protection and Autorestitution in Distribution Substations.”**
- **“IEEE PSRC Report on Global Industry Experience with System Integrity Schemes (SIPS)”**
- **“Redundancy in Coupling PLC to the Power Line”**
- **“Anomaly Checks for Relay Settings”**
- **“Practical Aspects of Rogowski Coil Applications to Relaying”**
- **“Protection Considerations for Combustion Gas Turbine Applications and Issues”**

Benefits to Industry and PES Members from our 2011 Work: These activities keep our industry up to date with technology, improve power system reliability, and help solve the most common protective relaying problems.

Benefits to Volunteer Participants from the 2011 Work: Approximately 70 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.

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Recognition of Outstanding Performance:

- **New IEEE Fellows: Chuck Mozina and Rick Taylor**
- **IEEE-SA Standards Medallion: Jeff Gilbert**
- **Distinguished Service Award: Miriam Sanders**
- **WG Recognition Awards:**
 1. **Outstanding Technical Report: PSRC WG 19, “Redundancy Consideration for Protective Relaying Systems”, Solveig Ward, Chair.**
 2. **Outstanding Standard or Guide: IEEE C37.230-2007, “IEEE Guide for Protective Relay Applications to Distribution Lines”, William P. Waudby, Chair.**
- **Prize Paper Award:**
 1. **“IEEE PSRC Report on Performance of Relaying During Wide-Area Stressed Conditions”, Damir Novosel, Chair.**
- **Certificates of Appreciation were awarded to the following Chairs: Jeff Gilbert, Rich Hunt, Mike McDonald, Alex Apostolov, Vahid Madani, George Moskos, Solveig Ward, Joe Uchiyama, Mark Adamiak, and Mark Allen.**

Significant Plans for 2012: PSRC plans to meet jointly with Selected PES Technical Committees in Anaheim during January. Additional joint meetings are planned throughout the year with the Power Systems Communication Committee, and Subcommittees of the Substations Committee. Future meeting locations include New Orleans LA in May and Portland OR in September. The PSRC will also be participating in session sponsorships and paper presentations in the PES T&D Conference & Exposition in May.

Submitted by: Robert Pettigrew (Chair 2011-2012) December 30, 2011