

# IEEE Power Engineering Society Entity Annual Report

**Entity: Transmission and Distribution Committee**

**Chair:** Satish J. Ranade

**Vice-Chair:** William A. Chisholm

**Secretary:** John S. McDaniel

**NOTE: Please list all items in each section in the order of importance. To aid the editor in compiling the PES Annual Report, please provide sufficient description to be able to explain to a member or a member's employer why an accomplishment or benefit ought to be important to them.**

## **1. Significant Accomplishments (include details and examples):**

### a. Standards, Guides, and Reports Summary

#### Capacitor Subcommittee

- i. IEEE Std. 1036-201, Shunt Capacitor Application Guide, was completed and published. It is now available for sale on the standards website.
- ii. IEEE Std. 18, Shunt Capacitors, draft 10 was completed. The standard will be balloted before the 2012 JTCM.
- iii. P1726 – A new standard, Guide for the Functional Specification of Fixed Transmission Series Capacitor Banks, for series capacitor applications (coordinated with SPD and Switchgear Committees), is nearing completion and will be balloted before the 2012 JTCM.
- iv. A new working group is completing a paper dealing with Reactor Applications for Capacitor Switching Technologies.

#### Overhead Lines Subcommittee

- v. Coordination, PAR on Power Line Noise
- vi. Coordination, PAR 998 on Direct Lightning Stroke Protection of Substations – SA procedure August 16.
- vii. Coordination, PARs on UHV transmission systems including BSR/IEEE 1860-201X, Standard for Voltage and Reactive Power in 1000kV or Greater (Ultra High Voltage) AC Systems

#### Distribution Subcommittee

- i. IEEE Standard 1656 – IEEE Guide for Testing the Electrical, Mechanical, and Durability Performance of Wildlife Protective Devices on Overhead Power Distribution Systems Rated up to 38kV was approved by IEEE-SA.
- ii. IEEE Std 1366, Guide for Electric Power Distribution Reliability Indices, was revised in May, 2012.
- iii. It is planned that P1782, Interruption Reporting Practices, will be going to ballot in 2012.

#### Power Quality Subcommittee

- i. Planning to begin IEEE P519.1 Application Guide balloting in 2012
- ii. Working to have a vote and/or extension to IEEE 519 Recommended Practices and Requirements for Harmonic Control in Electrical Power Systems
- iii. IEEE 1250 Guide for Service to Equipment Sensitive to Momentary Voltage Disturbances approved.
- iv. IEEE P1564 Guide for Voltage Sag Indices formed ballot pool and submitted draft.
- v. IEEE P1564 Recommended Practice for Measurement and Limits of Voltage Flicker on AC Power Systems was administratively withdrawn via oversight, but was since balloted twice is waiting for final approval by IEEE Standards. Based on IEC 61000-3-15 Revision 2.
- vi. Starting a new project (P1453.1) to adopt IEC 61000-3-7 as an IEEE standard with balloting expected to begin before end of year.

#### b. Tutorials and Panels Summary

- i. Computational Tools and Models for Integration of Distributed Energy Resources (panel).
- ii. Wind Plant Collector System Design 3.0((panel).
- iii. Standards and Interconnection Requirements for Wind and Solar Generation(panel).
- iv. Theories, Experiences, and Practice with Waveform Distortion Assessment(panel).
- v. Integration of Smart Grid Technology into Volt/Var Optimization (panel).

- vi. Smart Distribution Demonstration Projects Applications and Results(panel)
- vii. EHV Transmission Line Grounding (tutorial)
- viii. Smart Distribution Systems (tutorial)

c. Other Committee and Subcommittee Activities

- i. Reorganized Tower, Poles and Conductors subcommittee as the Overhead Lines Subcommittee
- ii. Expanded Renewable Energy Interconnection and Integration Subcommittee to include Solar and Wind Farms.

**2. Benefits to Industry and PES Members from the Committee Work:**

The scope of the Transmission and Distribution Committee is the treatment of all matters related to the design, theoretical and experimental performance, installation, and service operation of parts of electric power systems which serve to transmit electric energy between the generating sources and substations or customer points of common coupling through AC or DC lines. In 2011 the committee has provided benefit to industry by:

- Developing and managing standards and guides pertaining to distribution systems, lightning and insulators, power quality, overhead lines and the design and integration of renewable energy.
- Providing tutorials and panel sessions on timely topics including wind and solar integration, smart grid in transmission and distribution, and distributed energy resources.
- Providing industry with a venue for participating in cutting edge research and best practices dialogs; and participating in the standards making process with over twenty projects in progress or under consideration.

**3. Benefits to Volunteer Participants from the Committee Work:**

- a. Offering participants an opportunity to work with acknowledged leaders in shaping the T&D industry and informing on T&D issues.
- b. Affords industry leadership role for volunteer participants.

**4. Recognition of Outstanding Performance (include all award winners and their affiliations for which your area is responsible):**

Technical Committee Distinguished Service Award

- Dick Hensell

Technical Committee Working Group Recognition Award

- Lee Taylor, Distribution Award

**5. Coordination with Other Entities (PES Committees, CIGRE, standards, etc.)**

- a. Smart Grid Coordinating Committee
- b. P1547.7 Working Group
- c. PES Emerging Technology Coordinating Committee
- d. PES Wind Integration Coordinating Committee
- e. Liaison with PSPI

**6. New Technologies of Interest to the Committee:**

- a. Smart Automation and Smartgrid
- b. Continued developments in HVDC/FACTS
- c. Wind/Solar Farm interconnection/Integration
- d. Technology and for transmission and distribution apparatus and systems

**7. Significant Plans for the Next Period:**

- a. Tower, Poles and Conductors Subcommittee has been reconstituted as Overhead Lines to better focus their effort.
- b. The Renewable Energy Integration Subcommittee has expanded its effort with wind farms to include solar farms.
- c. The Smart Distribution Working Group will develop the Smart Distribution Application Guide
- d. Geomagnetic Storm WG has initiated their activities under the General Systems Subcommittee.

**Submitted by: Satish J. Ranade      Date: July 1, 2012**