

IEEE Power Engineering Society Entity Annual Report

2013

Entity: IEEE Transmission and Distribution Committee

Chair: William A. Chisholm

Vice-Chair: John McDaniel

Secretary: Dan Sabin

1. Significant Accomplishments:

Capacitors, Distribution, Engineering in the Safety, Maintenance and Operations of Lines (ESMOL), General Systems, HVDC /FACTS, Integration of Renewable Energy, Overhead Lines and Power Quality subcommittees all profited from participation in IEEE Winter Technical Committee and/or General Meetings in 2013. This was the first full year of operation with the a revised committee organization, disbanding the Lightning and Insulator subcommittee, integrating the Insulators Working Group scope into the re-named Overhead Lines (from Towers, Poles and Conductors) Subcommittee and moving the Lightning Working Group scope into General Systems, with its two task forces on Distribution and Transmission Line Lightning Performance.

The program of the IEEE Annual Meeting in Vancouver had 88 T&D committee task force, working group and subcommittee meetings, and T&D sponsored or co-sponsored the following twelve panel sessions:

- Time-Varying and Probabilistic Methods for Harmonics Aggregation Analysis in a Smart Grid
- Contact Voltages in the Public Right-of-Way
- Distribution Reliability Analysis Tools and Methods
- Change Management for Successful DMS Implementation
- Bulk System Reliability Impacts of High Levels of Distributed Energy Resources
- Smart Distribution Control Center
- Case Studies of Experiences with Distributed Resource Interconnections on Distribution Systems
- Modeling and Analysis of Power Systems
- Distribution Feeder Hosting with High Penetration of Distributed PV
- Control of Converter Interfaced DER Connected at Distribution Networks
- Smart Distribution Analytics and Microgrids for Integration of DER, Parts 1 & 2

IEEE Standards prepared, updated and balloted to completion in 2013 include:

- Std 18 (IEEE Standard for Shunt Power Capacitors), approved and published February 2013.
- Std 1726 (The Guide for the Functional Specification of Fixed Transmission Series Capacitor Banks for series capacitor applications) accepted March 27, 2014
- Std 1782 (Guide for Collecting, Categorizing and Utilization of Information Related to Electric Power Distribution Interruption Events) accepted March 27, 2014
- PC135.90 (PE/T&D) Standard for Pole Line Hardware for Overhead Line Construction, accepted March 27, 2014.

The Policies and Procedures for Standards Development template was revised by the T&D Committee to include the avenue of technical appeal to a supervising T&D group (WG or Subcommittee) that approves a Standards Draft from TF or WG for balloting. The modified P&P were approved by the Standards Association AudCom.

New administrative requirements from IEEE-SA regarding Transmission and Distribution Committee representation on NESC were addressed.

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

At present, greatest benefits to industry from T&D Committee work are the relevant industry standards, and the supporting tutorials.

3. Benefits to Volunteer Participants from the Committee Work:

There are two main participation models within T&D subcommittees, the formal Working Group and Task Force meetings of experts and stakeholders, and some relatively informal set of seminars and tutorials, championed by the Overhead Lines committee and supported by the ESMO committee.

In the past ten years, differing meeting requirements made it effective at times for the OL/TPC&I and ESMO committees to meet separately from the Winter Technical Committee meetings. In January 2013, both ESMO and Overhead Lines re-joined the Winter Technical Committee meeting in Memphis. The Overhead Lines group also participated fully in the January 2014 WTCM in New Orleans.

In terms of attraction and retention of new members, it is observed that the OL/ESMO meeting model has demonstrated considerable success over the past ten years, perhaps related to a relatively small (<200) group size, relatively wide focus of interests and active recruitment of invited tutorials from other subcommittees.

4. Recognition of Outstanding Performance:

The PES 2013 Prize Paper award was received by "Weather Normalization of Reliability Indices," by Heide Caswell, Vincent Forte, John Fraser, Anil Pahwa, Tom Short, Mark Thatcher and Val Werner of the Distribution Subcommittee.

John McDaniel, vice chair of T&D, received the 2013 PES Award for Excellence in Power Distribution Engineering.

Betty Tobin received the Technical Committee Distinguished Service Award for 2012 at the 2013 Winter Technical Committee Meeting.

Jim Burke received the Technical Committee Distinguished Service Award for 2013.

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

A positive example of coordination is the preparation of Std 1726 on series capacitor banks with input from Surge Protective Devices and Switchgear Committees.

Close coordination between the Overhead Lines Subcommittee and corresponding study committees in B2 continues to be achieved by joint membership. A new initiative, B2.AG06.TF 007 was formed in 2013 to address coordination of Aeolian vibration dampers with retrofit of transmission line surge arresters.

CIGRE C4.407 completed Technical Brochure 549, "Lightning Parameters for Engineering Applications", August 2013, including evaluations of IEEE Standards 998-1996, 1243-1997 and 1410-2010.

Coordination of CIGRE C2.23, Guide to procedures for estimating the lightning performance of transmission lines, with activity in the General Systems, Lightning working group is intended to follow the same participation model as C4.407.

6. New Technologies of Interest to the Committee:

A Task Force for Cross-Adopting / Harmonizing Insulator Standards has been formed in the Overhead Lines subcommittee, leading to early adoption of the IEEE-SA *centraldesktop* resources.

The new *PES Report format* has been recommended for consolidation and presentation of suitable Task Force outputs.

7. Problems and Concerns:

Update cycles for T&D Working Groups and Subcommittees remain widely variable and dependent on specific volunteers within each subcommittee.

Administrative actions by SA (for example DEIS P&P withdrawal, March 2013) have confused, delayed and de-motivated volunteer work on some of the IEEE standards that are co-sponsored by the T&D Committee.

8. Significant Plans for the Next Period:

Transmission & Distribution subcommittees have scheduled full participate in the January WTCM and/or July 2014 IEEE PES Annual meetings.

Submitted by: William A. Chisholm

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