

IEEE Power Engineering Society Entity Annual Report

2015

Entity: Power System Operations Committee

Chair: Hong Chen

Vice-Chair: Luiz Barroso

Secretary: Jianhui Wang

1. Significant Accomplishments:

Tutorials and Panels Summary:

PSOC sponsors four subcommittees:

- System Operations and Control Centers
- Transmission Security
- Operational Methods and
- Electricity Market Economics.

Each of these subcommittees organizes panel sessions at the General Meeting on relevant topics. In addition, PSOC sponsors poster and paper sessions. At the GM 2015, PSOC and its subcommittees conducted fourteen panel sessions, four transaction paper sessions, one paper forum session, and one poster session with seventy three poster papers. In addition, PSOC also selected twelve papers to the four best paper sessions.

Other Committee and Subcommittee Activities:

At the GM 2015, PSOC conducted a meeting of the Administrative Subcommittee and a meeting of the Main Committee. Each of the subcommittees met during GM 2015 to conduct its business and plan future work. Working group on State Estimation Algorithms and the following seven task forces met at GM 2015:

- Task Force on Electricity and Natural Gas Market Coordination
- Task Force on Decision Support Tools for Energy Storage Investment and Operations
- Task Force on State Estimation Concepts
- Task Force on Advanced Future Bulk Power Systems with Massive Distributed Resources
- Task Force on Real-Time Contingency Analysis
- Task Force on Natural Disaster Preparation and Recovery
- Task Force on Bulk Power System Operations with Variable Generation

For 2015 GM, PSOC sponsored five more panel sessions than before. Also, five new Task Forces were created to capture latest industry trends and address challenges. All the panel sessions and Task Forces were very well attended, and significantly increased industry participation.

Committee Structure Reorganization:

Starting from November 2014 and throughout 2015, PSOC has been closely working with PSPI and System Economics subcommittee of PSACE, on the combined committee of *Power System Operation, Planning and Economics*, creating one area of focus for the overall operations of power system.

Guided by Technical Council, special reorganization Task Force (Chair: Hong Chen, Secretary: Lei Wang) was created to develop the new committee structure, with leaders of PSO, PSPI, and SE of PSACE as members, and pas chairs and PES Long Range Planning as Advisory Group led by Bill Cassel.

Through detailed scope analysis to the previous six years' data, setting boundaries and grouping matrix, the new committee name and structure were developed and communicated to the general membership in June. During 2015 GM, dedicated town hall meeting was conducted to discuss the new committee structure and scope in detail, and solicit feedback. By August 31, no negative comment was received about the new committee structure. The general comments about leadership selection will be addressed by Technical Council.

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

By presenting and discussing the operational aspects of power system technologies and operations, PSOC activities help guide research and development activities. In addition, PSOC shares information about operations experiences under both routine and extreme conditions to provide feedback to the industry regarding the effectiveness of new techniques and methodologies.

3. Benefits to Volunteer Participants from the Committee Work:

With more committee activities, such as organizing and chairing panel sessions, paper forum, transaction paper sessions, as well as creating and organizing Task Forces, PSOC has attracted more volunteers. Through their contacts with other participants, volunteer participants in PSOC work gain knowledge and experiences they can apply in their jobs.

4. Recognition of Outstanding Performance:

PSOC recognizes the contribution of its members. In 2015, Dr. Jianhui Wang, Argonne National Laboratory, received a plaque from award chair Prof. Shahidehpour recognizing his following paper.

W. Su, J. Wang, J. Roh, Stochastic Energy Scheduling in Microgrids with Intermittent Renewable Energy Resources, *IEEE Transactions on Smart Grid*, Vol. 5, No. 4, pp. 1876 – 1883, July 2014.

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

PSOC coordinates with several other PES committees, notably PSACE, PDSP and PSPI. Coordination sometimes includes joint sponsorship of GM sessions. PSOC has supported the work of several task forces by providing operational perspectives via a liaison.

6. New Technologies of Interest to the Committee:

The major new technologies of interest to PSOC include the impact on power system operations of significant penetration of stochastic generation resources, the operational issues and opportunities related to smart-grid technologies, as well as market design challenges to support reliable and efficient system operation.

7. Significant Plans for the Next Period:

PSOC will continue work with PSPI and SE of PSACE in 2016 to complete the reorganization effort. The plan is to have the new committee approved in January 2016, and start the implementation of new committee structure and begin transition of responsibilities in April 2016. During 2016 GM in Boston, the new committee organization for *Power System Operation, Planning and Economics* will take effect.

Submitted by: Hong Chen Date: October 26, 2015