SPECIAL SECTION ON POWER SWITCHING TECHNOLOGY AND APPLICATIONS

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DURING the summer of 2010, a small international group of experts came up with a vision of a new conference with two primary objectives:

1) To invigorate and promote power switching technologies and their applications.
2) To reflect the changing balance of research and development in this area and the activities from the Asian economies.

A year later, the 1st International Conference on Electric Power Equipment-Switching Technology was hosted by the State Key Laboratory of Electrical Insulation and Power Equipment, Xi’an Jiaotong University, Xi’an, China, October 23–27, 2011. The International Scientific Committee was formed: Prof. S. Yanabu (JP), Chairman; Prof. Jianhua Wang (CN), Vice-Chairman; Prof. Lim Kee-Joe (KR), Vice-Chairman; Dr. Zhiyuan Liu (CN), Secretary; and Prof. E. Kaneko (JP); Prof. Yingsan Geng (CN); Prof. Lee Bang-Wook (KR); Prof. Mingzhe Rong (CN); Prof. R. Smeets (NL); and Prof. M. Glinkowski (USA). The conference was a great success and exceeded expectations of the organizers. More than 160 papers were presented at the conference and published as IEEE Catalog Number CFP1177P-PRT (ISBN: 978–1-4577–1270-8).

The conference papers addressed a wide range of topics including:
- switching phenomena in ultra-high-voltage systems;
- emerging high-voltage switching technologies;
- apparatus for power-flow control in smart distribution and transmission grids;
- fault-current-limiting technology;
- semiconductor switching technology;
- digital design technologies of switchgear;
- fundamental physics in switchgear;
- other.

Encouraged by its success, the International Scientific Committee agreed to prepare a special issue of IEEE TRANSACTIONS ON POWER DELIVERY. Out of 42 papers submitted for the Special Issue, the editorial review board selected 11 contributions.

The International Conference on Electric Power Equipment-Switching Technology (IC EPE-ST) will be a biennial event, the next one is planned for Matsue, Japan, October 20–23, 2013.

ACKNOWLEDGMENT

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- the IEEE Power and Energy Society,
- the authors for their contributions to this special issue,
- the reviewers for their generous and prompt responses,
- the editors for their hard work and cooperation in the long and sometimes tedious review process.

Special thanks to Prof. Reza Iravani, Editor-in-Chief, and Cheryl Koster, Power and Energy Society Publications Administrator, for their help and support.

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Mietek Glinkowski (SM’95) received advanced degrees in telecommunication science and power engineering from Poznan Polytechnic, Poland (Hons.) and Rensselaer Polytechnic Institute (RPI), Troy, NY. Dr. Glinkowski was a Fulbright Scholar and a Professor of Electric Power Engineering at RPI. After joining ABB in 1997, he has held a variety of positions, most recently as a Director of Technology for Power Products and Global Head of Technology for ABB Data Centers. He often speaks on subjects of power systems, renewable energy integration, distribution automation, power infrastructure, data centers, and industry standards. He holds seven U.S. patents and has authored more than 50 technical papers. He is a member of IEEE, Switchgear Committee, NY Academy of Sciences, Sigma Xi Research Society, Society of Engineers in Poland (SEP), CIGRE, the Current Zero Club, The Green Grid, and E-merge alliance. He is a registered Professional Engineer in the State of New York and U.S. National Representative to CIGRE A3—High Voltage Equipment. He received an IEEE Outstanding Engineer of the Year Award of the North Carolina Chapter in 2002 and the Attwood Associate Award from CIGRE National Committee in 2012.
This special issue will cover the recent technology developments and applications trends of power switchgear (from about 120 V AC/DC to 1200 kV AC/DC), their challenges, opportunities and future directions.

Preference will be given to papers that describe actual implementation experience, testing, field trials, new products, and field applications. Topics of interest include but are not limited to:

1. Switching phenomena in ultra-high voltage systems
2. Emerging high voltage switching technologies (high voltage vacuum switching technologies, SF6 alternatives, DC circuit breakers, etc.)
3. **Apparatus** for power flow control in smart distribution and transmission grids, including
   a) switchgear apparatus for applications in PV systems, wind energy, and other distributed generation;
   b) on-line monitoring of switchgear apparatus (thermal, partial discharge, gas pressure, level of vacuum, corona, etc.);
   c) FDIR (Fault Detection Isolation and Restoration) apparatus;
   d) smart controls of power switchgear such as controlled closing and opening, magnetic actuation drives, etc.
4. Fault current limiting technologies
5. Solid state switchgear
6. Digital design technologies and Computer Aided Engineering (CAE) in switchgears, including simulations of electric, magnetic, thermal and combined fields of switchgear apparatus and devices
7. Fundamental physics in switchgear

**SUBMISSION GUIDELINES**

This special issue solicits original work that is not under consideration for publication in other venues. Two-page extended abstracts are required for the first round of reviews. Authors of selected abstracts will be invited to submit full papers for review in the second round. Authors should refer to [http://www.ieee-pes.org/publications/information-for-authors](http://www.ieee-pes.org/publications/information-for-authors) for information about content and formatting of submissions. Please submit a PDF version of the extended abstract, including a cover letter with authors’ contact information via e-mail to icepe2011@mail.xjtu.edu.cn before the deadline.

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