IEEE Transactions on Power Electronics

Special Issue on Power Electronics in DC Distribution Systems, 2013

Scheduled Publication Time: January 2013

Percentage of renewable power out of total electricity consumption has grown very fast. By 2025, most of aggressive countries have envisioned to reach higher than 20%. Renewable power, by nature, is varying with time, weather and environment, and it is not stable and somehow discontinuous. How to use it effectively becomes a critical issue while fossil energy depletes in a near future. DC distribution concept could be a possible solution, which can be readily buffered with energy storage elements. DC distribution systems bring many advantages, higher overall system efficiency, easier interface of renewable energy sources to dc systems, easier expansion of power capacity, and less interference with ac grid. There are no frequency stability and reactive power issues, and no skin effect and ac losses. However, the existing infrastructures of electrical power systems are still dominated by ac. The challenge in the coming years lies in developing new infrastructures and power modules, setting up safety standard and regulation, and investigating system stability and dynamics for dc distribution systems, to which this special issue is dedicated.

Prospective authors are invited to submit original contributions, or survey papers on tutorials, for review for publication in this special issue on Power Electronics in DC Distribution Systems. Topics of interest include, but are not limited to:

- Infrastructures of DC distribution systems
- Power modules
- Energy management system
- Safety standard and regulation
- DC-bus voltage regulation
- Modeling and control
- Interface of DC-bus to AC-grid
- Energy storage and compensation
- DC appliances and electronic products
- Accessories for dc distribution systems

Papers with applications in data centers, houses and offices are particularly welcome. Papers submitted for presentation at APEC’11, ECCE-Asia’11 and ECCE’11 are also welcome.

All manuscripts must be submitted through Manuscript Central at http://mc.manuscriptcentral.com/tpel-ieee. Submissions must be clearly marked “Special Issue on Power Electronics, 2013” on the cover page. When uploading your paper, please indicate, under step 4 – Details & Comments, that it is for the “Special Issue on Power Electronics in DC Distribution Systems, 2013.” Refer to http://www.pels.org for general information about electronic submission through Manuscript Central. Manuscripts submitted for the special issue will be reviewed separately and will be handled by the guest editorial board noted below.

Deadline for Submission of Manuscript: May 31, 2012

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Proposed Timeline:

- Sep. 18, 2011–Proposal Approval by PELS AdCom Board
- Oct. 1, 2011–Call for Papers in the Transactions and Newsletter
- May 31, 2012–Manuscripts Submission Deadline
- July 31, 2012–First Review Complete
- Aug. 31, 2012–Revised Manuscript Due

- Sep. 15, 2012–Final Acceptance Notification
- Oct. 1, 2012–Final Manuscripts Due
- Nov. 15,2012–Manuscripts Forwarded to IEEE for Publication
- Jan. 2013– Special Issue Appears in Transactions