

IEEE TRANSACTIONS ON SMART GRID

CALL FOR PAPERS

Special Issue on “Optimization Methods and Algorithms Applied to Smart Grid”

With recent developments in advanced monitoring, information, and communication technologies applied to smart grid, electric power systems will be able to respond more efficiently to various customer demands, with the objective of making the electricity delivery more reliable, economical and sustainable. The application of smart grid will result in a more complex power grid with uncertain behavior (e.g., two-way digital technology allows providers and consumers to constantly monitor and adjust electricity usage for energy saving, higher power quality, and enhanced system reliability). The ever increasing applications of renewable and distributed energy will add one more dimensional uncertainty and increases the challenges for system operators and users.

This special issue is intended to bring together the most recent advances in operations research to solve the problems applied to different aspects of smart grid technologies. The articles can either focus on providing new solution methods for the existing models, or developing new models to formulate emerging problems applied to electric power systems. The proposed models of interest should emphasize linear programming, nonlinear programming, mixed integer programming, stochastic optimization, and game theoretical approaches. Topics of interest include but are not limited to:

- Advanced optimization techniques to solve smart grid operation and planning problems
- Models and algorithms for deployment and integration of distributed resources and generation
- Advanced modeling and solution techniques for the security issues applied to smart grid systems
- Models for development and incorporation of demand response and demand-side management
- Models and algorithms for the integration of smart appliances and consumer behavior
- Models and algorithms for deployment and integration of advanced electricity storage and peak-shaving technologies, including plug-in electric vehicles, thermal-storage air conditioning, etc.
- Stochastic control models and technologies to help system operators improve reliability, security, and efficiency of smart grid

Submission Guidelines

This special issue solicits original work that must not be under consideration for publication in other venues. Two-page extended abstracts (single line spacing) are solicited for the first round of reviews. Authors of selected abstracts will be invited to submit the full papers in the second round. Authors should refer to the IEEE Transactions on Smart Grid author guidelines at <http://www.ieee-pes.org/publications/information-for-authors> for information about content and formatting of submissions. Please submit a PDF version of the abstract including a cover letter via e-mail to guan@ise.ufl.edu before the deadlines.

Important Dates

May 20th, 2012: Deadline for extended abstract submission

June 21st, 2012: Completion for first-round of reviews

September 20th, 2012: Deadline for full paper submission

February 21st, 2013: Final decision notification

March 20th, 2013: Publication materials due

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