CALL FOR PAPERS
IEEE TRANSACTIONS ON POWER DELIVERY
Special Issue on "Frontiers of Power System Protection"

Advances in sensing, communication and computing have potential to refine, or even redefine the conception and implementation of Power System Protection. Increased computing power at low cost has provided opportunities to implement more computation-intensive methods/algorithms in real time. At the same time, Phasor Measurement Units (PMUs) providing faster and diverse synchronized measurements over a wide area, and new communication options have also emerged. These advances have the potential to be enablers of new paradigms in Protection. Due to availability of system wide high quality high volume data in real time, improved System Integrity Protection Schemes (SIPS) and adaptive protection have become possible. Big Data analytics have the potential to detect and locate events, analyze system integrity, and take corrective action for more reliable protection. At the same time, processing and communication delays, bad data, and cyber attacks pose challenges to security as well as dependability of protection. Novel protection methods using advanced computing are promising, but should not compromise the clarity and simplicity of the underlying system models and concepts. This special issue is aimed at stimulating forward-looking and transformative ideas and methods that can lead to significant advances in Power System Protection. Papers related but not limited to the broad list of topics listed below are solicited.

Advancing the State of the Art in Power System Protection:
- System Integrity Protection Schemes based on Wide Area measurement and analysis.
- Use of Wide Area Measurement to augment/supervise local protection.
- Protection based on real time evaluation of transient stability.
- Adaptive protection and protection schemes.
- Non-conventional sensors for enhanced protection.
- Modeling of relays, relaying systems, and instrument transformers.
- Localization of high impedance faults in distribution systems.

Automated Disturbance Diagnosis:
- Event detection, identification, and location based on system wide measurements & data analytics.
- Automated data synchronization, integration, disturbance analysis, setting coordination, and testing.
- Anticipation/mitigation of incipient faults.

Centralized/Integrated Protection and Control within a Substation:
- Secure communication infrastructure, interfaces, and protocols for protection.
- System design, sensor and communication technology, testing techniques, and reliability analysis.
- Substation automation, and interoperability.

Submission Guidelines

This special issue solicits original work that must not be under consideration for publication in other venues. Two-page extended abstracts are solicited for the first round of reviews. Abstracts should clearly state the novelty and contribution to the state of the art, summarize the proposed approach and test systems/procedures, and convey the expected outcome, preferably supported with initial results. Authors of selected abstracts will be invited to submit the full papers in the second round. Authors should refer to the IEEE PES Transactions author guidelines at http://www.ieee-pes.org/publications/information-for-authors for information about content and formatting of submissions. Please submit the extended abstract including a cover letter with author contact information to Guest EIC Sukumar Brahma (sbrahma@nmsu.edu) directly.

Important Dates

February 15, 2015: Deadline for extended abstract (2 pages) submission
April 15, 2015: Completion for first-round of reviews
July 1, 2015: Deadline for full paper submission
Nov 15, 2015: Final Decision
Dec 15, 2015: Publication material due

Guest Editorial Board

Sukumar Brahma (Guest Editor-in-Chief), New Mexico State University, USA.
Ratan Das, ABB, USA.
Mladen Kezunovic, Texas A&M University, USA.
Nirmal Kumar Nair, University of Auckland, New Zealand.
Ashok Pradhan, Indian Institute of Technology, Kharagpur, India.
Miles Redfern, University of Bath, UK.
Inmaculada Zamora Belver, UPV/EHU, Spain.

Editor-in-Chief of IEEE Transactions on Power Delivery
Wilsun Xu, University of Alberta, Canada