Call for Papers for the IEEE Transactions on Sustainable Energy Special Issue on

**Large Scale Grid Integration and Regulatory Issues of Variable Power Generation**

Large scale integration of variable power generation into the grid is on the rise as the world embraces for a sustainable energy future. Currently, there are over 250,000 MW of wind power generation installed world-wide and over 48,000 MW wind power connected to the US grid alone. According to a recent NREL report for the DoE, up to 80% of renewable power could be connected to the grid by 2030 a large portion of which is to come from wind power and PV. This scenario is true right across the developed and the developing world. Electricity Utilities, system operators (ISO’s) and regulatory agencies are increasingly becoming stricter in allowing the new wind farms to be connected to the grid. Environmentalists and Ecologists are equally vocal in their campaign against new onshore and offshore wind farms. New regulations are enforced for compliances. New grid codes are being developed or existing ones are updated on regular basis in the USA, Germany, UK, Denmark, Australia, Spain and other countries. Some of these codes are so stringent that developers and manufacturers are seriously challenged, projects are delayed and researchers are looking for new solutions. Industry and Academia are very actively engaged in developing technologies to meet the new grid codes and challenges of large scale accommodation of variable power generation. This special issue will be a very timely publication of issues, challenges, technologies and innovations in this area. Some of the key areas this special issue will focus on are:

- Reactive power and voltage ride Through compliances
- Inertial control/ pitch control and other frequency control mechanisms
- Active power compliances
- International grid codes (IEEE 1547, FERC etc)
- Standardization and case for global standard
- Wind power curtailment Issues
- PV Intermittency and topologies
- Dynamic security assessments
- Social Impact and environmental compliances
- Noise compliances
- Enabling technologies in grid code compliances
- Harmonics and power quality compliances
- Reliability Issues and compliances
- Limits on penetration of variable power generation
- Utility perspectives and autonomous compliances
- Other Issues on grid compliances of variable power generators
- Offshore and remote variable power - specific control issues i.e. HVDC controls

Prospective authors should send extended abstracts in pdf format to the Guest Editor-in-Chief of this special issue. Based on these extended abstracts, the editors will invite selected authors to submit full papers that will be reviewed following the standard IEEE Transactions on Sustainable Energy procedure through Manuscript Central: http://mc.manuscriptcentral.com/tste-pes. The format for full papers is available at http://www.ieee-pes.org/templates-and-sample-of-pes-technical-papers.

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**Editor-in-Chief: Bikash C Pal, Imperial College London**

- Deadline for submission for extended abstracts – 29 April 2013
- Notification of acceptances of abstract to submit full paper – 28 June 2013
- Deadline for submission of full papers – 29 November 2013
- Notification of Final Decision/ Acceptance of full paper – 28 February 2014
- Publication of Special Issue – October issue 2014