ELECTRIMACS 2017

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Special Session on

MICROGRIDS

organized by GT Microgrids SEEDS (French Working Group on Microgrids)

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Call for Papers

The distributed energy generation, based on renewable energy sources, shows a very rapid growth, while its intermittent nature reveals an increasing complexity for grid managers. Included in the distribution network or the transmission network, AC or DC, HV or LV, high power or low power, microgrids play an important role on ancillary services. A microgrid is defined as a set of renewable and traditional energy sources, storage systems, and controllable loads; it can operate connected to the main utility grid or disconnected in islanded mode. A microgrid controller is used to interact with the smart grid; it provides voltage/frequency control, power balancing, load sharing or load shedding, and takes into account the constraints of the main utility grid provided by smart grid communication. Therefore, microgrids are a promising approach to interconnect and integrate distributed energy sources in the power system in a simple, efficient and reliable way. Aiming to manage and optimize the local energy with respect to the main utility grid requirements, microgrids would contribute to the deployment of renewable power generation.

Whether configured in AC, DC or hybrid, microgrids research studies relate to grid topology, power balance control, energy management, and microgrid devices. Concerning the smart grid and microgrids, research areas include not only issues in power grid, but also data communication, dynamic pricing, as well as demand side management. During the last decade, microgrids studies show that a dual approach is required: a systemic approach for interfaces and controllers adapted to each operation mode and a specific approach related to intermittent aspects.

The goal of this special session is to present different key developments of microgrids that offer insights about advanced microgrid controller and applications.

Topics of interest include, but are not limited to:

- ✓ Modeling, control, and management of microgrids
- ✓ Controllers for AC and DC microgrids;
- ✓ Power quality for microgrids;
- ✓ Power electronic converters for microgrids (topologies, efficiency, performance …);
- ✓ Energy storage devices and systems for microgrids
- ✓ Energy management systems for microgrids (optimal planning, economic load dispatch…);
- ✓ Demonstrations, special applications, and pilot projects.

Deadlines:

Submission of digests (4-6 pages):	**January 3rd, 2017**
Notice of acceptance:	**April 1st, 2017**
Submission of full papers:	**May 20th, 2017**

All the instructions for abstracts are included in the conference website: www.electrimacs2017.fr