



**Gokaraju Rangaraju Institute of Engineering and Technology
(Autonomous)**

Report of the Event

Title of the Event: **Workshop on Advanced Software's for Power System Simulation**

Organized Date: 21st February 2015 and 22nd February 2015

Summary: Over the years, power networks have become more complex and complicated for the analysis and control. To manage such networks, simulation tools are needed due to their possibility to create accurate simulation and replicate of all the physical effects that are running in the network. Larger and more complex networks require advanced and powerful tools with the ability to fully optimize and refine power system in a fast and accurate way. With the use of advanced simulation software, it has become possible to study dynamic behaviour and performance of network before going through a real implementation. Without the need to execute the experiments on real systems, simulation provides savings in time and costs as well as real network protection from possible unwanted consequences of experimenting. Good simulation tool should be: simple, easy-to-use, able to simulate generation, trans-mission, transformation, distribution, utilization and protection of power networks, detect errors and handle large power systems. A number of simulation tools are available today and are extensively used for power system analysis, research and education. Some of them are characterized as educational tools focused on illustrating power system control as well as introducing to realistic, though tractable in size, design problems. This provides not only with deep theoretical knowledge but also practical skills, which are required for understanding power system functioning. In this workshop advanced software and real time power system simulation technologies are presented. Due to powerful software and advanced real time simulators, it is possible to simulate the dynamic behavior of very large and complex power systems and to verify their performance with the original control and protection equipment.