



# IEEE Power & Energy Society

offers a short course in

## Power System Basics for Non-Engineering Professionals



**Location:** SCE&G, operations Support Center Columbia, SC.

Date : Thursday, July 16, 2009

### Course Description

This one-day course is intended to give non-engineering professionals a better understanding of electric power systems planning, operations and regulatory frameworks. Basic electrical terminology and concepts are explained in simple to understand terms with regard to design, construction, operations and maintenance of power plants substations and transmission and distribution lines. Basic electrical safety concepts are included. New information on Solar and Wind power has been added to the course.

### Who Should Attend?

- ✧ Regulatory Affairs, Legislators, Commission Staff Professionals,
- ✧ Power Brokers, Power Marketers, Consumer Groups and related organizations,
- ✧ Policy Makers, Public Affairs Administrators, Legal Councils, Media Communications Staff Experts,
- ✧ Energy Agency Leaders, Business Executives, Education Institution Board Members,
- ✧ Utility Management, or anyone interested in learning about electric power systems.

### Benefits of Attending

Participants gain more insight into the concerns of engineers, the demands of regulators and consumer groups and a perspective of how these factors play a major role in the operation of today's electric power systems. This course will help participants become more productive and proactive in professional situations. Attendee receive IEEE certificates of course completion and PDHs.

### Course Outline

- ☑ ***Introduction and Brief History***
- ☑ ***Fundamentals of Electric Power***  
Discussion of how natural resources such as coal, gas, water, solar, wind, etc. are converted into useable electrical energy.
- ☑ ***Generation (Including Solar and Wind) and Transmission***  
The operation of generation plants, substations and transmission lines are explained plus how these systems work together to efficiently transport electrical power long distances. Wind and Solar technology has been added to this course.
- ☑ ***Distribution and Utilization***  
Power delivery to residential, commercial and industrial customers is explained including emergency backup generators.
- ☑ ***Power System Protection***  
Design concepts of power system protective relaying and coordination are explained for local and interconnected systems.
- ☑ ***Power System Operation***  
How electric power systems are monitored, controlled and operated under normal and abnormal conditions, including the use of telecommunications channels are included in this course.
- ☑ ***Interconnection and Regulation***  
The benefits of interconnected power systems and regulatory requirements of electric power systems are discussed.