



# POWER SYSTEM BASICS FOR NON- ENGINEERING PROFESSIONALS

July 10, 2008

SCE&G, Columbia , SC

## Tentative Agenda



8:00-8:15	<b>Introduction</b>	1:00-2:15	<b>Transmission and Distribution</b> Conductors DC vs AC Transmission Overhead and Underground Underground Transmission Line Distribution Systems Overhead and Underground Underground Networks
8:15-9:30	<b>Fundamentals of Electric Power</b> Electric Generation: Faraday's Law Ohm's Law Basic Circuit Components Power Factor, Power and Energy Power Transmission		
9:30-10:45	<b>Generation</b> Prime Movers Steam Turbines Combined Cycle Nuclear Geothermal Solar Hydro Wind	2:15-2:45	<b>Utilization</b> Metering Power Quality Stray Voltages and Currents
		2:45-3:15	<b>System Protection</b> Protection Relay Concepts Ground Potential Rise Electric & Magnetic Fields
10:45-11:00	<b>Coffee Break</b>	3:15-3:30	<b>Coffee Break</b>
11:00-12:00	<b>Substations</b> Transformers Circuit breakers Voltage Regulators Recloser Disconnect switches Capacitor Banks Reactors Lightning Arrestors Static VAR Compensators	3:30-4:30	<b>Reliable Operation</b> Demand Factor Load Fluctuation Load Generation Balance Synchronization Stability Interconnected Systems System Control Centers Normal and Abnormal Operation Restoration
12:00-1:00	<b>Lunch</b>	4:30-5:00	<b>Regulation</b> Regulatory Models International Structures