

POWER SYSTEM BASICS FOR NON-ELECTRICAL PROFESSIONALS

"The Electric Power Industry Explained in Simple to Understand Terms"

Contact us for More Information

Phone: 760.612.8488

Email: steve@blumeconsulting.com

Website: www.blumeconsulting.com

Course Description

Based on the renowned book entitled: The "Power System Basics for Non-Electrical Professionals" this course offers a comprehensive overview of the electric power industry, starting from generation of electricity, transmission, distribution, and consumption. The course presents industry terminology and fundamental electrical theories in an easily understandable manner, thus providing individuals without an electrical background an effective means to learn about bulk electrical power systems.

Participants gain insight into idiosyncrasies of designing, constructing, and operating large complex interconnected electric power grid systems. Students gain insight into all major equipment used in substations, power plants, and consumer load centers (residential, commercial, and industrial). The course also covers grid energy management, normal and emergency operations, grid modernization, telecommunications, and electrical safety.

Course Outline

1. System Overview, Terminology, and Basic Concepts (electrical principles, 3-Phase, WYE, Delta, and more)
2. Generation (fossil, nuclear, solar, wind, others) and Transmission
3. Substation Equipment (transformers, circuit breakers, regulators, switches, and control building)
4. Distribution and Consumption (NEC, primary, secondary, motors, stray voltage, power quality, and more)
5. System Protection (typical schemes, relay settings, devices, and sensors)
6. Interconnected Power Systems (NERC, Power marketing, reliability, voltage control, and more)
7. Control Centers and Telecommunications (grid control, independent system operators, fiber optics, microwave, and more)
8. Personal Protection and Safety (NEC, faults, ground potential rise, touch & step potentials, equipotential grounding, and more)

About the Course

This course is designed to provide you with a strong foundation in how bulk electric power systems work to ensure consumers receive reliable energy services at a reasonable cost. Be a contributing factor in company meetings, customer service relations, operational challenges and constraints, and sound input to grid modernization.

The course is taught by the book's author Steve Blume, providing valuable insight and expertise.

Course Details

- Duration: 3-Days (shorter higher-level courses are also available)
- Date & Location: Instructor-led course can be arranged at your company location or online

