



## **PWR-ENG-AC - Telecom AC Power Engineering**

**Length:** 4.5 Days

### **Overview**

PWR-ENG-AC course offers comprehensive insight into the operation and relationship of the various Alternating Current (AC) power components found in a telecommunications building. The entire system, as well as each component of the AC power system, is discussed. You will learn how to plan and design a standby AC system, including the ventilation, exhaust and fuel systems to ensure that the standby AC system is operationally fit in the event of a commercial AC power failure. You will also learn to provision an Uninterruptible Power Supply (UPS) that will satisfy the critical AC loads for Data Centers, Network Operations Centers, Directory Assistance centers as well as other critical AC powered facilities. Exercises and casework reinforce concepts presented in the classroom.

Upon course completion, you will be tested to reinforce your knowledge and determine areas for further study. Successful completion of this test will earn TPI Trainers Certification.

**Customization:** PWR-ENG-AC reflects current industry standards and can be customized and presented at your location to meet the unique needs of specific work groups, such as installation technicians and managers, facility maintenance technicians, network maintenance technicians and technical support engineers. Call 1-630-607-9302 for information on customized versions of this course.

### **You Will Learn**

- Calculation of power factors and AC amperes.
- AC distribution.
- Proper sizing of an Uninterruptible Power Supply (UPS) and associated batteries.
- Design of a standby generator system and associated peripherals, including fuel, exhaust and ventilation systems.

## Course Outline

- AC Terminology and Calculations
  - Calculating and Applying kW, kVA, kVAR and Amperes
- AC Power
  - House Service Cabinet
  - AC Switchgear
  - AC Distribution
  - Power Line Disturbances
- Inverters/UPS Systems
  - Selecting a UPS System
  - Determining UPS Battery Requirements
- Standby Engine Alternator Systems
  - Sizing and Selecting an Engine Alternator
  - Designing an Exhaust and Ventilation System
  - Designing a Fuel System
- In-service Responsibilities
  - Monitoring Power Systems Performance
  - Power Equipment Acceptance
  - Power Operational Review



**Take Home Materials:**

You will receive a comprehensive course manual with numerous diagrams that will be useful as a reference back on your job.

**Who Can Benefit:**

Telecommunications personnel (engineers, planners, supervisors and technicians) responsible for ensuring adequate AC power and standby power deployment within the telecommunications network. Personnel, who install, maintain and accept AC power applications will also find this training valuable.

A basic understanding of power plant components is recommended. This basic knowledge can be gained through completion of Telecommunications Power Elements (POWER-L).

