



POWER “L” - Telecom Power System Elements

Length: 2.5 Days

Overview

POWER “L” provides instruction on all power systems employed in telecommunications facilities. This course provides insights into the safety and operation of these facilities.

Subjects included throughout the course stress the safety requirements in connection with operation of telecommunications power systems. Students will gain an understanding of AC and DC power systems operation during normal conditions when commercial power is available and during emergency conditions while commercial power is unavailable.

It is paramount to recognize the importance of maintaining service continuity of the telecommunications equipment in a telecommunications facility, but also to realize that all equipment installations can impact the power system. Recognition that improper installation or removal activity can lead to service degradation or service interruptions will ensure that the installation and removal activity is performed in a safe and reliable manner.

Who should attend: POWER “L” is recommended for all personnel regardless of prior years of experience. Installation and maintenance technicians, as well as engineers and managers can benefit from the topics discussed.

Throughout the course knowledge assessments are used to reinforce the topics discussed. At the completion of the course you will be tested to document your knowledge. Successful completion of this test will earn TPI Trainers Certification.

Note: When POWER “L” is delivered to at your location our instructors can enhance your learning experience by specifically targeting the lessons learned to your specific power systems.

Customization: POWER “L” depicts the current industry standards and can be customized to meet the needs of your specific work group. To discuss the need to customize this course you can contact Vicki Johnson by calling 1-630-607-9302.

Course Outline

- Safety precautions for:
 - general installation
 - ESD events
 - battery installation and maintenance
 - working in a “live” power environment

- Impact on Telecommunications Equipment
 - Method of Procedure (MOP)
 - general
 - detailed
 - Service Continuity

- Protection of Equipment
 - insulation methods
 - use of insulated tools

- AC Power Classes
 - commercial power`
 - standby generators
 - inverters
 - UPS

- Functions of DC Power Systems
 - telecom equipment voltage limits
 - minimum battery voltage
 - voltage drop application

- Identify the Various Components
 - batteries
 - rectifiers
 - controllers
 - converters
 - secondary power distribution bays
 - power distribution cable

- Flooded Batteries
 - lead calcium
 - lead-antimony
 - pure lead

- Valve Regulated Lead-Acid (VRLA)
 - AGM
 - gelled

- Thermal Runaway
 - occurrences
 - detection methods
- Types of rectifiers
 - silicon controlled (SCR)
 - controlled ferroresonant (ferro)
 - switched-mode (SMR)
- Circuit Protection Devices
 - fuses
 - circuit breakers
 - protection co-ordination
 - power distribution cables
- Purpose of Proper Grounding Methods
 - ground system
 - CBN (Common Bonding Network)
 - IBN (Isolated Bonding Network)
 - power plant
- Testing & Acceptance Procedures
 - functional
 - operational
 - documentation

Take Home Materials:

A complete course manual will be provided. This manual will be a valuable reference as you return to your job.

Who Can Benefit:

This course is a benefit for individuals who require an essential understanding of telecommunications power applications. These individuals include; supervisors, technicians, auditors or installers who work in a telecommunications environment

