

Battery & UPS Systems

This course is designed to present and enhance an understanding of battery and UPS systems and develop knowledge of the common electrical components. Inherent dangers exist with the operation, distribution, maintenance, and repair of battery systems and electrical apparatus. The safety and protection of those components and the people who maintain them is presented along with the tools and resources necessary for maintenance and troubleshooting. The training will use the considerable expertise of the instructor to provide a flexible approach, within the subject matter, to adjust to the student's particular needs within each subtopic. This will allow the maximum transfer of knowledge and skills within the time allowed.

Duration: 16 Hour Program

INTRODUCTION

- Review of Electrical Safety
- Functions of UPS Systems
- Basic Battery and UPS Systems

BATTERY CONSTRUCTION

- Lead Acid
- Nickel Cadmium (Ni-Cad)
- Case Configurations
- Fault Current Capacities

BATTERY LOAD TESTING

- Acceptance Test
- Performance Test
- Service Test
- Impedance Test

BATTERY TESTING

- Specific Gravity
- Volts per cell
- Cell Temperature

BATTERY CHARGING

- Charge/Discharge Equation
- Electro-Chemical Reaction
- Surface Charge
- Float Charge
- Equalize Charge

BATTERY SAFETY

- Cleaning
- Hydrogen Gassing/Ventilation
- Personnel Protective Equipment
- Eye Wash Stations

UPS OPERATIONS

- Overview/Introduction
- Theory of Operation
- Design and Capabilities
- Testing
- Acceptance Tests
- Performance Tests
- Load/No Load tests
- Maintenance and Inspections