



## **LOW VOLTAGE ELECTRICAL EQUIPMENT TRAINING**

Understanding the operation, maintenance, troubleshooting and application of low voltage distribution systems is critical for any facility. As industry becomes more dependant upon very high levels of uptime, understanding the operation and maintenance of the power distribution system is required.

### **INTRODUCTION & COURSE OBJECTIVES REVIEW OF BASIC ELECTRICAL SAFETY DESIGN AND CONSTRUCTION OF LV SWITCHGEAR**

- Diagram Analysis
- Protective Devices
- Control and Metering
- Transformers
- LV Switchgear Inspections and Maintenance

### **CIRCUIT BREAKER CONSTRUCTION AND MAINTENANCE**

- Understanding Sizing, Ratings and Trip Settings
- Recognizing and Clearing Faults
- Manual Operation – Closing, Tripping, Spring Charging
- Racking Operations

### **GROUND FAULT PROTECTION**

- Discussion of Grounding and Ground Faults
- Types of Ground Fault Protection (Ground Strap, Zero Sequence, Residual)

### **MOTOR CONTROLLERS TYPES OF MOTOR CONTROLLERS**

Full Voltage  
Non-Reversing  
Reversing  
Reduced Voltage  
Auto Transformer

### **CONTACTOR CONSTRUCTION**

Air-Break  
Description  
Operation

### **MOTOR CONTROL CENTERS**

Control Voltage Settings  
Basic Control Circuits  
Wiring diagrams  
Stop  
Reverse  
Jog  
Remote  
Auto – permissive

### **FUSES**

Fuse Classifications  
“R” Rated Medium Voltage Fuses  
Fuse Construction  
Inspection and Cleaning

### **THERMAL OVERLOADS**

Description  
Operation  
Selection

### **NAMEPLATE DATA AND RATINGS**

### **NETA MAINTENANCE TESTING SPECIFICATIONS**

Visual and Mechanical Inspections  
Electrical Tests  
Test Values  
Instrument Transformers  
Visual and Mechanical Inspections  
Electrical Tests – Current Transformers  
Electrical Tests – Voltage Transformers