

Electrical Inspection

This five-day course covers the codes and standards of high-voltage electrical theory, rotating machinery, transformer testing and inspections, circuit breakers and relays, batteries, cable raceway inspections, and cable pulling and terminations.

I. Electrical Theory H.V.

II. Rotating Machinery

- DC Motors
- AC Motors
- AC Controllers
- DC Controllers
- Motor Inspections
- Motor Control Centers
- Generators
- DC Generators
- AC Generators
- Generator Cooling
- Insulation Testing of Rotating Machinery

III. Transformer Testing and Inspection

- Fundamentals
- Connections and Polarity
- Construction
- Classification
- Tap Changers
- Accessories
- Data
- Testing and Inspection
- Maintenance

IV. Circuit Breakers and Relays

- Circuit Breakers
- Maintenance Fundamentals

- Testing
- Protective Relays
- Switchgear Construction
- Switchgear Inspection Criteria

V. Batteries

- Characteristics and Types
- Components
- Specific Gravity
- Discharging and Charging
- Chargers
- Safety and Handling
- Checklist

VI. Miscellaneous Electrical Equipment

- Switches
- Temperature Measurement
- Valve Operators
- Motor Operators
- Setting MOV Limit Switches
- MOV Torque Switches
- Inspections for Limit and Torque Switches
- Valve Stroke
- MOVATS
- Valve Controller
- Indicating Devices
- Recording Devices

VII. Cable Raceway Inspection

- Definitions
- Procedures and Standards
- Tray Types
- Construction Specifications
- Separation Criteria
- Inspection Checks for Trays
- Tray Cover Inspection
- Conduit Types and Materials
- Inspection Checks for Conduit
- Raceway Supports
- Inspection for Anchor Bolts

Section X will be incorporated into each of the previous sections as applicable.

X. Electrical Equipment Installation

- State Requirements
- Codes Standards and Organizations
- Inspection Criteria
- Equipment Identification and Handling
- Grounding Requirements
- Equipment Installation Checks

VIII. Cable Pulling and Termination

- Cable Pulling Standards
- Cable Definitions and Standards
- Tray and Conduit Fill
- Cable Reels and Cable Marking System
- Bend Radius, and Temperature
- Pulling Devices and Cable Attachments
- Conduit Types and Materials
- Pulling Aids and Personnel Positioning
- Installation Procedure and Calculation Factors
- Inspection Points During the Pull
- Inspection Points after the Pull
- Testing and Documenting
- Types of Terminations
- Pre-Terminating and Splicing Inspection Points
- Steps in the Termination Process
- Splices
- Tests

IX. Quality Assurance Programs

- QA Regulation and Standards
- 10 CFR 50, Appendix b
- ANSI/ASME Standards