



Content  
Community  
Connection

United States  
One Franklin Square, Suite 302  
Geneva, NY 14456  
Tel: 315-7889-8323  
Fax: 315-789-8940

Canada  
1885 Clements Rd, Unit 218  
Pickering, ON L1Z 1X5  
905-686-1040  
Tel: Fax 905-686-1078  
Toll Free: 1-855-824-6131

## High Voltage Electrician Training

Contact us Today for a FREE quotation to deliver this course at your company's location.

<https://www.electricityforum.com/onsite-training-rfq>

Our 2-Day High Voltage Electrician Training Course covers and exceeds provincial and federal electrical safety requirements for working on electrical equipment that is 750V or greater.

By reviewing electrical testing specifications developed by NETA, maintenance personnel can create a high voltage maintenance program designed to meet your facility's needs. It will also help them decide what can be done by in-house personnel and what is best left to an accredited electrical testing professional.

As well as helping students keep abreast of the latest technologies and techniques available in this area, this High Voltage Electrician Training Course offers an excellent opportunity for delegates to ask specific questions and exchange ideas relating to their own applications. This is designed to be an interactive, problem-solving, learning environment for delegates of all disciplines.

This comprehensive two-day High Voltage Electrician Training Course provides invaluable information to anyone who wishes to know and understand the role of high voltage electrical

maintenance standards, programs and procedures for the optimal high voltage maintenance of electric power systems. The importance of planning, programming and implementing electrical maintenance practices will be emphasized. This course also deals with safety considerations involved in high voltage electrical maintenance procedures for all the components of any electrical system. This will be an interactive forum where the instructor will lead the discussion between students so as to maximize the educational experience.

Electricians responsible for high voltage electrical equipment will learn predictive and preventative maintenance techniques and priorities through a through examples of common and catastrophic electrical failures.

### **LEARNING OBJECTIVES:**

Upon completion of this course, the student will learn:

- Introduction and Safety
- Schematic Diagram, System Feeding Arrangements and Interface with electric utility
- HV Switchgear, Circuit Breakers, Isolators, Switches and Transformers
- System Protection and Associated Equipment
- Identification of Electrical Hazards and use of PPE
- Switching and Communication Procedures
- Live Switching of Electrical Equipment
- Management of the System under Normal and Fault Conditions

### **WHO SHOULD ATTEND**

This course is a must for electrical engineers, electrical maintenance personnel, plant electricians, electrical contractors, power specialists, maintenance managers, consultants and technologists responsible for the design, construction, installation, inspection, operation, or maintenance of electrical systems, electrical technicians, inspectors, safety personnel and other employees responsible for the operation and maintenance of electrical systems in a commercial, industrial, institutional or utility setting.

## **STUDENTS RECEIVE**

- FREE 100-Page Digital Electrical Maintenance Handbook (Value \$20)
- \$100 Coupon Toward any Future Electricity Forum Event (Restrictions Apply)
- 1.4 Continuing Education Unit (CEU) Credits
- FREE Magazine Subscription (Value \$25.00)
- Course Materials in Paper Format

## **COURSE OUTLINE**

### **DAY ONE**

#### **SESSION 1: HV INSULATION**

- Review of insulation materials and the methods to quickly and accurately diagnose insulation quality.
- Qualities of good insulation and factors affecting deterioration
- Methods of testing insulation and interpretation of test results

#### **SESSION 2: POWER CABLES**

- Cable construction and the methods to splice or terminate the various types of cable.
- Construction of shielded and non-shielded cable
- Cable installation methods
- Methods of testing cables and interpretation of test results

#### **SESSION 3: HV POWER TRANSFORMERS**

- Review: Function and operation of electrical transformers.
- Interpret nameplate data
- Transformer protection systems
- Design and construction of power transformers
- Proper oil sampling methods
- Testing and scheduling maintenance procedures
- Electrical safety procedures for power transformers

#### **SESSION 4: INSTRUMENT TRANSFORMERS**

- Instrument transformer operation and application
- Current transformer operation and application
- Purpose of instrument transformers in metering
- Safety procedures critical to instrument transformers
- Testing of instrument transformers

#### **SESSION 5: HV BREAKERS AND SWITCHGEAR**

- Various types of power switchgear
- Operation of switchgear
- HV switchgear tests
- Switchgear maintenance and schedule
- Switchgear safety procedures

#### **SESSION 6: CIRCUIT BREAKERS**

- Various types of circuit breakers
- Safety procedures critical to circuit breakers
- Correct steps for removal and restoration of a circuit breaker
- Operation of electrically operated circuit breaker controls
- Operation of circuit breaker mechanisms

- Maintenance on ACB's, OCB's, ABB's, SF6 and VCB's

## **SESSION 7: POWER FUSES**

- Function of power fuses.
- Various types of fuses
- Safety procedures when working with power fuses
- Correct steps for removal and restoration of power fuses

## **DAY TWO**

## **SESSION 8: PROTECTIVE RELAYS**

- Principles and operation of protective devices.
- Power system disturbances
- Protective functions of various relays
- Relay settings and understanding probable problems

## **SESSION 9: POWER SYSTEM CO-ORDINATION**

- Principles of co-ordination of protective devices.
- Process of power system co-ordination
- Interpreting time/current curves

## **SESSION 10: POWER SYSTEM STARTERS**

- Operation of high voltage starters
- Various types of starters
- Types of motor protection
- Test procedures for starters
- Safety procedures critical to starters

### **SESSION 11: ELECTRIC MOTORS**

- Operation of large horsepower motors.
- Various types of electric motors
- Test procedures for motors
- Motor maintenance and schedule
- Safety procedures critical to motor starters

### **SESSION 12: CAPACITORS**

- Operation of high voltage capacitors.
- Various types of capacitor installations
- Test procedures for capacitors
- Safety procedures critical to capacitors

### **SESSION 13: GENERATORS**

- Operation of high voltage generators.
- Operation of various types of generators
- Test procedures for generators
- Generator maintenance and schedule
- Safety procedures critical to generators

## **SESSION 14: EMERGENCY POWER SYSTEMS**

- Operation of various high voltage emergency power systems.
- Various types of emergency systems: batteries, transfers, ties, temporary etc.
- Test procedures for operation of these systems
- Maintenance and schedule for emergency systems
- Critical safety procedures

**Review of expectations  
Questions and Answers**

### **COURSE TIMETABLE:**

**Both days:**

Start: 8:00 a.m.

Coffee break: 10:00 a.m.

Lunch: 12:00 noon

Finish: 4:30 p.m.

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