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CSA Z463 Electrical Maintenance -

View Course Details

COURSE DATES AND TIMES

CSA Z463 Electrical Maintenance Training is a 6-hour live-online or in-person course that teaches electrical professionals how to apply the latest CSA Z463 requirements to maintain safe, reliable, and compliant industrial, commercial, and institutional electrical systems. The course focuses on maintenance planning, testing, documentation, and failure-prevention practices that meet modern safety and reliability expectations across Canadian facilities.

Participants gain a clear, practical understanding of how CSA Z463 guides maintenance activities, how it connects with CSA Z460 Lockout/Tagout and CSA Z462 Workplace Electrical Safety, and how proper maintenance directly affects worker protection, equipment longevity, operational continuity, and organizational due diligence. The training uses real-world examples and proven maintenance strategies to help attendees recognize equipment risks, prevent failures, and improve system performance.

What is CSA Z463?

CSA Z463 is Canada’s recommended practice for the maintenance of industrial, commercial, and institutional electrical power systems. It provides national guidance for planning, implementing, and documenting electrical maintenance activities to improve system reliability and protect workers.

Organizations use CSA Z463 to:

- Reduce unplanned outages and equipment failures
- Prevent electrical injuries and arc flash incidents
- Standardize maintenance procedures across facilities
- Improve overall power system performance
- Demonstrate due diligence to insurers, auditors, and regulators
- Strengthen electrical safety and operational reliability

Our course explains how to interpret the standard and apply it effectively to real electrical equipment, systems, and maintenance programs.

Why CSA Z463 Electrical Maintenance Training Matters

Electrical maintenance has a direct impact on safety, equipment health, and system reliability. Without proper maintenance practices, organizations face an increased risk of:

• Arc flash events
• Equipment overheating, misoperation, or premature aging
• Costly downtime and service interruptions
• Protection system miscoordination
• Worker injuries and regulatory exposure

This course provides a structured approach to electrical maintenance that reduces these risks, strengthens compliance, and supports safe, dependable operation of electrical systems.

Learning Outcomes

• Apply CSA Z463 requirements to electrical maintenance procedures
• Minimize electrical injuries and equipment failures through proper maintenance
• Improve equipment efficiency and long-term performance
• Use specialized maintenance practices for industrial electrical equipment

WHO SHOULD ATTEND

This course is ideal for anyone responsible for the operation, reliability, maintenance, or safety of industrial, commercial, or institutional electrical systems, including:

• Electrical engineers and technologists
• Electrical maintenance personnel and plant electricians
• Maintenance managers, supervisors, and planners
• Electrical contractors and project supervisors
• Power system specialists and consultants
• Technicians, inspectors, and safety professionals

STUDENTS RECEIVE

- CSA Z463 Electrical Maintenance Training Coruse Certificate
- .6 Continuing Education Unit (CEU) Credits (6 Professional Development Hours)
- $50 Coupon Toward Any Future Electricity Forum Event (Restrictions Apply)
- 100+Page Electrical Maintenance Handbook
- A FREE Dgital Intelligent Power Today Magazine Subscription
- Course Materials In PDF Format

COURSE OUTLINE

CSA Z463 Electrical Maintenance Training Course Outline

DAY ONE

1. The Quality Management System

- Planning an Electrical Preventive Maintenance Program
- Equipment Loss
- Production Economics
- Main Parts of an EPM Program
- Inspections
- Training for Safety and Technical Skills

2. Maintenance Practices

- Proactive versus Reactive strategies
- Five Maintenance Strategies and factors affecting your plant
- Abnormal Environments and the effect on maintenance
- Parts inventory and its effect on your plant
- Just-in-time delivery strategies
- Commissioning tests
- Identifying and analyzing equipment failure

3. Electrical Maintenance and Impact on Worker Safety

- Poor maintenance and its effect on workers
- Poor maintenance and changes to Hazard and risk assessments
- Proper risk assessment principles
- Regular equipment inspections
- Protection settings
- Arc Flash ratings
- Arc Flash Personal Protective Equipment
- Arc Flash remediation techniques
- Proper grounding and bonding techniques
- Electrical personnel training

4. Emergency Preparedness

- Responding to Electrical accidents
- Removing victims from energized equipment

- Electrical Emergency Response plans
- Emergency response equipment
- Restoring power after an event
- Emergency lighting in Electrical rooms
- Routine checks of safety equipment – Gloves, safety grounds, hot sticks

5. Energized Maintenance Practices

- Energized maintenance – pros and cons
- Energized testing
- Infrared Thermography
- Corona imaging
- Oil Analysis
- Vibration Analysis
- Battery testing
- Power washing energized High Voltage equipment

6. Maintenance on De-energized Electrical Equipment

- Safe work requirements on de-energized equipment
- Electrical isolation on High Voltage systems
- Protective grounding on high-voltage systems
- De-energized maintenance frequencies for:
- High voltage lines and switchgear
- Medium voltage lines and switchgear
- Motor Control sections at 480 and 600 volts
- Protective relays

7. Hazardous Location Equipment Maintenance

- Certifications
- Maintenance procedures verifying Equipment integrity
- Hazards in dealing with fine dust and vapours
- Area cleanliness
- Portable tools and temporary lighting in Hazardous Locations
- Commissioning plans

8. Electrical Testing

- Types of electrical tests
- Mechanical inspections and tests
- Component verification
- Function testing

9. Equipment Maintenance Practices

- Switchgear
- Transformers
- Cables
- Disconnect and Circuit Switches
- Circuit Breakers
- Protection and control equipment
- Ground grid verification
- Rotating machinery
- Motor Control Centers
- Power distribution centers
- Variable Frequency Drives
- Battery systems
- Power factor Correction capacitors
- Substation bus inspection
- Backup Generator checks
- Uninterruptible Power Supplies
- Robotic transfer switching

10. Specialized Equipment

- Supervisory control and Data Acquisition systems (SCADA)
- Programmable Logic Controllers (PLC)
- Alarms, Signals, and Communication Systems
- Telecommunication, Radio, and Television Towers
- Surveillance and Security Systems
- Fire Alarm and Fire Detection Systems
- Automatic fire pump startup testing
- Lighting, signs, and Emergency lighting
- Seasonal Heat Trace verification
- Crane inspection
- Elevator inspection
- Use of electricity in mines
- Quick Connect Cable Connectors (480 & 600 volt)

COURSE TIMETABLE

Start: 10:00 a.m. Eastern Time
Finish: 4:30 p.m. Eastern Time