

LOW VOLTAGE ARC FLASH/ ELECTRICAL SAFETY TRAINING

September 5, 2019 | Winnipeg, MB
September 9, 2019 | Saskatoon, SK
September 11, 2019 | Edmonton, AB
September 16, 2019 | Richmond, BC
September 19, 2019 | Mississauga, ON

1-DAY COURSE
\$399



MV/HV ELECTRICAL SAFETY TRAINING

September 6, 2019 | Winnipeg, MB
September 10, 2019 | Saskatoon, SK
September 12, 2019 | Edmonton, AB
September 17, 2019 | Richmond, BC
September 20, 2019 | Mississauga, ON

1-DAY COURSE
\$399

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EARN CONTINUING
EDUCATION UNITS (CEUS)

COMBINED LV/HV ELECTRICAL SAFETY

September 5-6, 2019 | Winnipeg, MB
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**BOTH
COURSES**

\$699

COMPLETE COURSE DETAILS AT

LV - WWW.ELECTRICITYFORUM.COM/ELECTRICAL-TRAINING/ARC-FLASH-TRAINING

MV/HV - WWW.ELECTRICITYFORUM.COM/ELECTRICAL-TRAINING/HIGH-VOLTAGE-SAFETY-TRAINING

COMBINED - WWW.ELECTRICITYFORUM.COM/ELECTRICAL-TRAINING/LV-HV-ARC-FLASH-TRAINING

The LV & MV/HV Safety Training Courses Include:

- 100+Page Digital Electrical Safety Handbook (Value \$20)
- An Electricity Forum Coupon (Value \$100) to be used against any future Electricity Forum event (restrictions apply)
- 1.4 CEU credits issued by the Engineering Institute of Canada.
- Course Presentations in Paper Format
- A FREE Magazine Subscription (Value \$50)
- NOTE: This course DOES NOT INCLUDE A CSA Z462* Standard. Copies of the CSA Z462* Standard must be purchased separately from Canadian Standards Association and brought to the course.

DAY ONE - LOW VOLTAGE ARC FLASH AND SHOCK TRAINING

8:00am

UNDERSTANDING ELECTRIC POWER SYSTEMS

- Time-Current Curves & Power System Studies
- Electrical Arc Characteristics

PREPARING TO WORK SAFELY

- Hazard Risk Analysis/ Task Assessment
- Assessment to Lockout or Work Energized
- Overview of Lockout Fundamentals
- Working Energized defined
- Preparing a Job Briefing and Planning Checklist
- How to plan for an Energized Electrical Work Permit
- Elements of an Energized Electrical Work Permit

ELECTRICAL HAZARDS

- Electrical Shock
- Effects of current on human beings
- Shock Protection Boundaries
- Approach to Energized electrical conductors or circuit parts operating at 50 Volts or more

ESTABLISHING AN ELECTRICALLY SAFE WORK CONDITION

The most effective way to prevent electrical injury is to completely remove the source of supply. This section will discuss the methods and process of achieving an electrically safe work condition. Including the following:

HAZARDOUS ELECTRICAL ENERGY CONTROL PROCEDURES

- Individual Qualified Employee Control Procedure
- Simple Lockout Tagout Procedure
- Complex Lockout Tagout Procedure
- Coordination
- Training and Retraining

DETERMINING SAFE APPROACH DISTANCE

Determining Safe Approach Distance
Definitions of Boundaries and Spaces
Limits of Approach
Shock Hazard Analysis
Shock Protection Boundaries
Limited Approach Boundary
Restricted Approach Boundary
Prohibited Approach Boundary
Hazard Boundary

Shock Hazard Boundaries

- Limits of Approach
- Preparation for Approach
- Qualified Persons, Safe Approach Distance

Electrical Conductors or Circuit Parts for Shock Protection
Safe Working Distances from Energized Conductors

BASIC METHOD FOR DETERMINING ARC FLASH HAZARD ASSESSMENT

Breakdown and characteristics of the 4 Hazard Risk Categories - NEW
Selection of Personal Protective Equipment for Various Tasks
Hazard/ Risk Category Classification
Protective Clothing and Personal Protective Equipment (PPE)
Protective Clothing Characteristics
Factors in selection of Protective Clothing and Equipment
Two Category, Flame Resistant (HRC/ Hazard Risk Category) Clothing System - NEW
Layering Protective Clothing and Total System Arc Rating
Arc Rating, Arc Thermal Performance Value (ATPV) and Break-open Threshold Energy (EBT)
Brief overview of applicable ASTM standards for Protective Clothing and PPE

NEW ANNEX: Prevention of Shock Injuries from Electrostatic Discharges

Prevention of Shock Injuries from Electrostatic Discharges, describes workplace scenarios, such as high-speed network operations, in which potential for shock injury from electrostatic discharge exists. This Annex identifies methods to prevent, control, and protect personnel from injury. NEW: DC Safety-related Work Practices

CSA Z462 PPE CLOTHING REQUIREMENTS, Arc Rated CLOTHING TESTING STANDARDS, HOW TO ESTABLISH A PPE PROGRAM IN YOUR COMPANY

The evolution of Arc Resistant (AR or HRC) fabrics
Changes in Clothing Requirements in Electrical Work - New
The various types of HRC fabrics that are available in the marketplace
HRC fabrics and the effects of undergarments
Review the technology and effectiveness of inherently flame resistant fibers vs chemically treated fabrics
Developing a PPE Program in Your Company
Assessing the correct Arc Flash hazard and choosing the right level of protective clothing
Company training and worker compliance
Documentation QUIZ
A quiz to ensure student understanding of the days information

...and more

DAY TWO - MEDIUM/HIGH VOLTAGE ELECTRICAL SAFETY

8:00am

RECOGNIZING HV ELECTRICAL SAFETY HAZARDS

A detailed review of critical electrical safety hazards created by energized electrical equipment:

- Insulation
- Power Cables
- Power Transformers
- Instrument Transformers
- Dealing With Fault Currents
- Disconnect Switches
- Switchgear
- Circuit Breakers
- Fuses
- Electrical Relays
- Motor Starters
- AC/DC Motors
- Capacitors
- Emergency UPS Systems

RESOLVING HV ELECTRICAL SAFETY HAZARDS

Objective: Determine the controls used to protect workers from all energy sources created in the workplace. Benefits of a safe workplace include fewer injuries, lower worker compensation costs, reduced service interruptions, greater protection of capital investment, and increased uptime. This section will provide you with a detailed blueprint that maximizes electrical safety and all the benefits it generates.

- Hierarchy of Controls
- Management Control
- Legislation
- Electrical Code
- Purchasing Controls
- Engineering Controls
- Training
- Safety Documentation
- Rules
- Safe Work Practices
- Safe Work Procedures
- Codes of Practice
- Operating Procedures
- Permits & Clearances
- Switching Procedures
- Physical Equipment
- Personal Protective Equipment
- Safety Equipment
- Signs and Barriers
- Equipment Protection
- Interlock
- Grounding
- Field Control
- Inspections
- Job Planning
- Pre-job Meeting
- Hazard Identification
- Hazard Reporting
- Work Methods

- Limits of Approach
- Switching Practices

GENERAL HV ELECTRICAL SAFETY REQUIREMENTS

- Review of Standards and OH&S Regulations
- HV electrical qualifications
- Poles and structures
- Obstructions on poles
- Properly informing electrical workers
- Working in service rooms
- Space around equipment
- Working with HV test equipment
- Insulated aerial devices

HV SWITCHING

This section of the course will instruct how to: interpret and use a single line diagram to write a switching sequence to safely isolate an electrical device for work; Validate existing operating orders and switching procedures; and Develop and maintain mandated documentation for all electrical equipment isolation and maintenance work.

- Single Line Diagrams
- Using Prints
- Electrical System Drawings
- Safety Documentation
- Isolation
- Lockout/Isolation
- Switching Workshop

WORKING ON HIGH VOLTAGE ELECTRICAL EQUIPMENT

Isolation and lockout
Warning signs

WORKING ON DE-ENERGIZED HIGH VOLTAGE POWER SYSTEMS

- Isolation and lockout
- Person in charge
- Switching sequences
- Isolating devices
- Grounding and blocking
- Working with multiple authorities

WORKING CLOSE TO ENERGIZED HIGH VOLTAGE EQUIPMENT AND CONDUCTORS

- Minimum clearances
- General limits of approach
- Assurance in writing
- Assurance not practicable
- When is a worker specially trained and qualified
- Adjusted limits of approach
- Emergency work procedures
- Authorization by owner to perform

...and more

**1 (855) 824-6131****(905) 686-1040****ON-LINE:**

www.electricityforum.com/electrical-training/arc-flash-training

The fee includes Course presentation materials, refreshments, Lunch is included with this course.

NOTE: This course DOES NOT INCLUDE A CSA Z462-18 Standard. Copies of the CSA Z462-18 Standard must be purchased separately from Canadian Standards Association and brought to the course.

The registration fee to attend the 1-Day Arc Flash and Shock Electrical Safety Training Workshop is \$399.00 + Tax. The registration fee to attend the 1-Day High Voltage Electrical Safety Training Course is \$399.00 + Tax. The registration fee to attend the 2-Day LV/HV Electrical Safety Training Course is \$699.00 + Tax.

Register and prepay 14 days before forum date and receive an early bird discount of \$50.00

SPECIAL PROMOTION: Register 3 delegates at the full price of \$399 each, and get a 4th registration FREE!

* Note: The Electricity Forum is an independent provider of electrical safety training and is a Corporate Supporter of the CSA. All trademarks and copyright associated with the [CSA Z462-18 Arc Flash Standard] are the intellectual property of the Canadian Standards Association and the Electricity Forum claims no ownership of rights thereto.

CANCELLATION AND REFUND POLICY

Registration fees are refundable only upon receipt of written notification 10 days prior to the conference date, less a 10 per cent service charge. Substitution of participants is permissible. The Electricity Forum reserves the right to cancel any conference it deems necessary and will, in such event, make a full refund of the registration fees.

1-DAY LOW VOLTAGE ARC FLASH AND SHOCK TRAINING

Winnipeg, MB**Sept 5, 2019**Sandman Hotel & Suites
1750 Sargent Ave.**Tel:** 204-775-7263**Richmond, BC****Sept 16, 2019**Sandman Signature Vancouver
Hotel & Resort10251 ST. Edwards Drive
Tel: 604-278-9611**Saskatoon, SK****Sept 9, 2019**Sandman Airport Hotel
310 Circle Drive**Tel:** 306-477-4844**Mississauga, ON****Sept 19, 2019**

Hampton Inn and Suites

3279 Caroga Drive, Mississauga, ON
Tel: 905-671-4730**Edmonton, AB****Sept 11, 2019**Sawridge Inn Edmonton South
4235 Gateway Blvd NW**Tel:** 780-438-1222

1-DAY MEDIUM/HIGH VOLTAGE ELECTRICAL SAFETY TRAINING

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COMBINED 2-DAY LOW VOLTAGE/HIGH VOLTAGE SAFETY TRAINING

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combined 2-day course details:

WWW.ELECTRICITYFORUM.COM/ELECTRICAL-TRAINING/LV-HV-ARC-FLASH-TRAINING