



## 2-DAY LOW & HIGH VOLTAGE ARC FLASH & SHOCK TRAINING COURSE

ELIMINATE & REDUCE EMPLOYEES' RISK OF  
EXPOSURE TO ARC FLASH & SHOCK HAZARDS

Attendees will receive appropriate knowledge to identify when they may be exposed to the electrical hazards of arc flash and/or shock and the actions they can take to eliminate exposure or reduce risk to as low as reasonably practicable.



Solid understanding  
of the material



Confident on  
the job site



Become electrical  
safety mentors within  
your workplace

**INQUIRE &  
REGISTER NOW!**



**604 944 6697**



Average Duration: 16 hours



Certificate valid for 3 years



Standards: CSA Z462 Workplace Electrical Safety



Customized course available upon request



Compliant and defensible as due diligence to  
OH&S regulations



Interactive discussions and engaging exercises

### WHO WOULD BE TEACHING YOU?

**TERRY BECKER**

P.Eng., CESC, IEEE Senior Member



Terry has over 28 years of experience as an Electrical Engineer, with 12 years specifically devoted to electrical safety. Terry is the First Past Vice-Chair of the CSA Z462 Workplace electrical safety Standard, a founding Voting Member from 2006. He is also a founding member and Voting Member of the CSA Z463 Maintenance of electrical systems Standard.

Terry is a Voting Member on the IEEE 1584 Guide for Performing Arc-Flash Hazard Calculations Technical Committee. He has provided electrical safety consulting and arc flash and shock training across Canada in all industry sectors. Terry has presented at industry conferences and workshops on electrical safety across Canada, USA, Australia and India.



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# “ BUILD YOUR CULTURE, BUILD YOUR CONFIDENCE ”

## KNOWLEDGE SUMMARY

- Be aware of minimum requirements of the OH&S act, codes, regulations and industry standards related to arc flash & shock.
- Learn how CSA Z462 applies to high voltage works tasks e.g. switching and isolation, racking power circuit breakers and applying temporary protective grounds.
- Learn how to develop procedures for high voltage jobs and related work tasks
- Identify when a worker is exposed to arc flash and shock hazards
- Define the difference between operating energized electrical equipment and working on it
- Gain familiarity with risk assessment procedures and know how to apply the hierarchy of risk control methods to reduce them
- Learn how to establish an electrically safe work condition
- Understand the justification for energized electrical work tasks
- Know when an energized electrical work permit (EEWP) is required
- Understand how to complete a shock & arc flash risk assessment for a discrete energized electrical work task
- Draft an electrically safe work procedure
- Training on specification, selection, care, use and maintenance of arc flash & shock PPE, tools and equipment



1

### INTRODUCTION

History and evolution in Canada, Arc Flash & Shock equipment labels; electrical incident statistics; electrical equipment; work task-based; risk assessment; myths and miss information; energized electrical job planning workflow.

2

### OH&S REGULATIONS & ELECTRICAL SAFETY-RELATED STANDARDS

OH&S act, code and regulations; application of standards to Arc Flash & Shock Hazard Management; CE Code Part I; CSA Z462 Workplace electrical safety standard; CSA Z460 control of hazardous energy – lockout & other; CSA Z463 maintenance of electrical systems; CSA Z1000 occupational health & safety management; CSA Z1002 occupational health and safety – hazard identification, elimination, risk assessment & risk control; electrical safety trifecta.

3

### ELECTRICAL HAZARD IDENTIFICATION & RISK ASSESSMENT

Energized electrical job planning workflow; CSA Z462 clause 3 definitions; electrical job assigned; discrete energized work tasks identified; electrical hazard identification, shock & electrocution; Arc Flash, Arc Blast; introduction to risk assessment; hierarchy of risk control methods; exercise.

4

### CSA Z462 CLAUSE 4 SAFETY RELATED WORK PRACTICES & CLAUSE 4.1 GENERAL REQUIREMENTS FOR ELECTRICAL SAFETY RELATED WORK PRACTICES & PROCEDURES

Energized electrical job planning workflow; general requirements; electrical safety program; risk assessment procedure; hierarchy of risk control methods; job safety planning; job planning & job briefing checklist; qualified person & unqualified person; training requirements; host and contractor requirements; test instruments and equipment; portable cord&plug connected electrical equipment; GFCIs.

5

### CSA Z462 CLAUSE 4.2 ESTABLISHING AN ELECTRICALLY SAFE WORK CONDITION

Lockout program; electrical drawing examples e.g. single line diagrams; simple lockout; group lockout; complex group lockout; process for establishing and verifying an electrically safe work condition.

6

### CSA Z462 CLAUSE 4.3 WORK INVOLVING ELECTRICAL HAZARDS

Justification for energized electrical work; normal operating condition; Energized Electrical Work Permit (EEWP); shock risk assessment and additional protective measures; Arc Flash risk assessment and additional protective measures; other precautions for personal activities; personal protective equipment.

7

### ELECTRICAL SPECIFIC PPE, TOOLS & EQUIPMENT

Specification; procurement; inventory management; issued “individually or shared”; selection; performance; management care, use and maintenance; Pre- Use inspection and checks; frequency of testing.

8

### SUMMARY & CONCLUSION

Review of materials covered; group discussion and any final questions; course feedback sheet; final exam.