

ESPS Electrical Safety Program Solutions INC. Online Training System



Course 1: Electrical Safety and Awareness

Course Overview

This course is part of a series of courses by ESPS Electrical Safety Program Solutions INC. (ESPS) which addresses electrical safety in the workplace. This introductory course is an overview of electrical hazards, and how to mitigate them.

Introduction

This course explains the hazards of electricity and working on or near energized electrical equipment. It also has details of how to eliminate or manage those hazards.

1.0 Objective

This course is designed for participants:

To enhance the understanding of electrical hazards including electrical shock and arc flash and be able to explain the effects and consequences of these hazards. It will also give the student a greater perspective of regulations, standards, and rules for safely working on energized electrical equipment if absolutely necessary. Choosing the proper personal protective equipment and the care and maintenance of it will be discussed. Lockout, shock hazard analysis, arc flash hazard analysis, energized electrical work permits and job briefing topics will also be presented.

Course Benefits

- Create an awareness of electrical hazards and how to avoid or eliminate them
- Create safe work practices
- Raise overall safety awareness
- Reduce down-time due to unplanned electrical incidents
- Enhance personal safety
- Prepare the student for ESPS Course 2 and its' components

2.0 Who Should Take This Course?

This course is tailored for all commercial and industrial electricians and construction personnel. It is beneficial for all operations and maintenance personnel who may work on or near energized

electrical equipment. Occupational Health and Safety professionals with or without an electrical background will benefit from this training. Management and supervisory staff who have personnel reporting to them who operate or maintain electrical equipment would greatly benefit from taking this course.

3.0 Course Outline & Lesson Plan

| Topic # | Topic Title | Sub-Topics to be Discussed | Methodology | Media | Time (min) | |
|---------|--|---|--------------------------------|-----------------------------------|------------|-----|
| | | | | | Start | End |
| 1 | Course Glossary and Terms | Terms for electrical safety | Text and images | Text, videos, and graphics | 0 | 10 |
| 2 | Electricity and its' Effects on the Human Body | <ul style="list-style-type: none"> • Basics of Electricity • Shock • Burns (from contact with electrically energized parts or circuits) • It's not voltage, but current that kills • Arc flash and blast definitions/discussion • Burns (from arc flash) • Arc flash videos | Text, images, and audio-visual | Text, video, graphics, and photos | 10 | 30 |
| TEST 1 | | | | | 30 | 40 |
| 3 | Government Standards and Regulations | <ul style="list-style-type: none"> • Alberta Occupational Health and Safety Regulation Part 18, Rule 232(2) • Saskatchewan Occupational Health and Safety Act and Regulations, Sections 94 and 465 • Ontario Occupational Health and Safety Regulations 42(1) • NFPA 70E-2004 • CSA Z462 (pending) • CSA Z460-05 • CSA Z1000-06 • Labelling | Text and images | Text and graphics | 40 | 50 |
| 4 | Protection Against Shock and Arc Flash/Blast | <ul style="list-style-type: none"> • Shock protection boundaries • Arc flash hazard analysis | Text and images | Text and graphics | 50 | 60 |
| 5 | Personal Protective Equipment (PPE) | <ul style="list-style-type: none"> • Choosing the proper Electrical Specific PPE • Caring for, and maintaining PPE | Text, images, and audio-visual | Text, video, graphics, and photos | 60 | 70 |
| TEST 2 | | | | | 70 | 80 |
| 6 | Electrical Work | <ul style="list-style-type: none"> • Establishing an "electrically safe work condition" • Energized Electrical Work Permit (EEWP) | Text and images | Text and graphics | 80 | 95 |
| 7 | The Electrical Safety Program Defined | <ul style="list-style-type: none"> • How to build an Electrical Safety Program (ESP) | Text and images | Text and graphics | 95 | 110 |
| TEST 3 | | | | | 110 | 120 |