

## **Course Name: Electrical System Safety**

**Course Description:** The objective of this course is to provide basic training for persons involved in the electrical industry. This course is designed to train all electrical staff on the proper care, maintenance, and inspection of the power distribution system. It is also designed to ensure that delegates are instructed to work within the guidelines of current safety regulations. It will help employees and companies identify and reduce the risk of personal injury and equipment damage due to operator error. Major topics include:

- **Electrical Safety**  
Understand the hazards of electricity at the power system supply level. Material includes the review of electrical blast, electrocution, short circuits, overloads, ground faults, fires, lifting and pinching injuries.
- **Personal Protective Equipment**  
Develop a familiarity with the different types of "Personal Protective Equipment" through demonstrations of locking and tagging devices, protective clothing and specialized equipment.
- **Isolation and Lockout Practices**  
Learn proper procedures for the lockout and isolation of electrical equipment and compare them to existing site regulations and policies.

**Target Audience:** Utility, industrial and commercial electrical personnel involved in hands-on roles or maintenance planning. This including engineers, technicians, electricians, linemen, supervisors, and other personnel who work on or near energized and de-energized electrical equipment and systems.

**Course Outline:** This course addresses the following topics:

- **Power System Hazards**
- **Power System Faults**
- **Facts and Figures:**
  - Major Causes: Act of God, Human or Operator Error, Equipment Breakdown
  - Short Circuits
  - Overloads
  - Fires
  - Electrocution
- **Personal Protective Equipment**
  - Introduction
  - Personal Body Protective Equipment
  - Testing and Grounding
  - Live Line Tools
- **Temporary Grounding**
  - Introduction
  - Purpose
  - Work Methods

- **Hazards of Isolated Equipment**
  - Induction
  - Accidental Energization
  - Wind
  - Lightning
  - Adequate Capacity Cables
- **Potential Indicating Devices**
  - Introduction
  - Purpose
  - Potential Indicators:
    - Volt Meters
    - Clip-on Ammeter
    - Preparation of Temporary Grounding
- **Isolation and Switching Procedures**
  - Introduction
  - Self-Protection
  - Red Tag
- **Lockout Procedures**
  - Individual Lockout
  - Lock Box Method
  - Sign In Method
  - Removal of a Personal Safety Lock
- Safe Limits of Approach: Authorized Person
- Safe Limits of Approach: Competent Person

**Length of the Course:** This course is delivered in 1 day.

**Course Location:** Can be provided at the Jacques Whitford office or at client's facility.

**Course Evaluation and Certification:** JWTI Certificate

**Course Pre-requisites:** None

**Materials:** Manual and PowerPoint Handout

**Supplementary reading(s):** CSA Standard C22.1-02, Canadian Electrical Code Part 1

**Instructor Information:** To be determined.

**Other Important Information:** n/a

**Available Support Services:** If you have any questions, please contact [course\\_admin@jacqueswhitford.com](mailto:course_admin@jacqueswhitford.com) or call Course Admin at JWTI (613) 738-0708 ext. 204.