



## ARC Flash Hazard Analysis Impact, Control & Safety

Date	Venues	(\$)Fees	Book your seat
05 May -09 May 2024	Bahrain	2900	<a href="#">Register Now</a>

### Introduction

Arc flash hazards should be looked upon seriously and with adequate safety measures, training and knowledge shall be in compliance with IEEE 1584 and NFPA 70E. Technology is also instrumental in preventing arc flash hazards. Electrical accident preventions are always in place but accidents still take a toll on the persons working on the premises. Electricity is a familiar and necessary part of everyday life, but electricity can kill or severely injure people and cause damage to property.

There are simple precautions and personal protective equipment to be used when working with switchgears that can be taken to significantly reduce the risk of arc flashes. Arc flashes are to be contained and precautions are to be in place against arc flashes accidents. Proper and correct personal protective equipment are mandatory as it can save lives and prevent severe injuries.

#### The seminar will highlight:

- Causes of arc flash
- Types of faults and its effect
- Arc flash incidents
- Limits of approach
- Technology in reducing arc flashes

### Objectives

#### At the end of the seminar, you will learn to:

- Understand the importance of arc flash accident prevention in medium and high voltage electrical installation
- Explain the necessity of working safely
- Learn the dangers and hazards of high voltage electrical faults
- Determine how to avoid accidents at your workplace
- Analyse the various methods of arc flash reduction devices

### Training Methodology

Each seminar participant will receive a copy of the comprehensive seminar notes. The presenter will outline and discuss the topics using computer displays, video clips and PowerPoint presentation. The seminar is designed to have an interactive format to maximize delegate participation. Questions and answers are encouraged throughout and at the daily sessions. Needs-Based case-studies and examples will be discussed in problem solving workshop sessions.

### Organizational Impact

**Upon completion of the seminar, the organisational impact would be:**

- Technical training and up-skilling to improve and realise the full potential of a competent workforce
- Productivity increase through minimisation of project time acceptance/design and commissioning
- Identification for opportunities of improvements due to deep understanding of the presented state-of-the-art technologies
- Networking of personnel with technology leaders and other engineers and technicians with strong field experience
- Exposure of personnel to the standard international procedures
- Attitude change of workforce, as continuous follow up of new technologies and their up taking could otherwise create workforce with high resistance to change due to lack of understanding

## **Personal Impact**

**On successful completion of this seminar delegates will be able to understand:**

- The importance of safety in high voltage installations
- Understand the hazards of arc flash accidents
- Identify the dangers and risks of accidents in a high voltage installation
- Appreciate the importance of hazard warning labels
- Be careful and aware of limits of approach
- Recognize the effort of implementing arc flash hazard reduction devices

## **Who Should Attend?**

The technicians and maintenance staff will be able to comprehend the hazards and dangers of arc flash. This will enable them to exercise safety during maintenance and work.

**This seminar is suitable to a wide range of professionals but will greatly benefit:**

- Electrical engineers
- Maintenance technicians
- Management professionals
- Project engineers
- Safety officers

## **SEMINAR OUTLINE**

### **DAY 1**

**What are Arc Flash Hazards and their Relevance to IEC, IEEE 1584 and NFPA 70E Standards**

- Overview and definition of arc flash
- Electric shock hazards
- Internal arc fault and electrical safety hazards
- Severity of arc flashes and arc blast
- IEEE 1584 and NFPA 70E relevance to arc flash hazards
- IEC Standard Time/Current Zones effects of AC currents on persons
- Electrically safe working environment and safety programmes
- Implementation of lock out tag out and its significance

### **DAY 2**

## **The Impact of Arc Flash Accidents and How can such Incidents be Avoided and Controlled?**

- Current limiting fuses and fast acting circuit breakers
- How over current protective devices can reduce arc flash hazards
- Arc flash metrics
- Arc flash incidents
- Arc flash mitigation methods
- Arc flash safety solutions
- How to avoid arc flash accidents?
- Arc proof and arc resistant switchgears

### **DAY 3**

#### **Significance of Installing Arc Flash Protection Relays and Understanding Limits of Approach Boundaries and Precautions**

- Limits of approach
- Arc flash protection boundary
- Importance of arc flash warning labels
- Incident energy
- Hazards risk categories
- Hazardous Area Classifications
- Electrical intrinsic safety
- Types and operation of arc flash protection relay

### **DAY 4**


#### **Arc Flash Safety, Hazard Analysis and Control of Internal Arc Faults**

- Arcing flash safety and maintenance
- ARMS – Arcflash Reduction Maintenance System
- Ultra fast earthing switch (UFES)
- Arc vault method of arc flash control
- Incident energy verses bolted faults
- Arc flash hazards analysis
- Arc flash hazard calculations
- Arc flash hazard analysis software


### **DAY 5**

#### **Personal Protective Equipment Categories and Risk Assessments**

- Personal protective equipment categories
- Consequences of an internal arc
- IEC standards on arc flash hazards
- Arc flash accidents and preventions
- Avoiding arc flash blasts
- Remote racking of circuit breakers
- Risk Assessment applied to Electrical Equipment and Isolation
- Case studies, wrap up session with Q&A

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