# HIGH VOLTAGE ELECTRICAL COMPLIANCE AND SAFETY OPERATING PROCEDURES



# WHAT YOU WILL LEARN:

- Knowledge of safety rules/regulations applicable in your workplace
- How to identify the electrical hazards and take steps to achieve zero risk
- Evolve enterprise safety policies and implement them by taking appropriate safety management steps
- Plan electrical installations with in-built safety measures
- Ensure safety through proper safety procedures in operation and maintenance
- Conduct safety audits in the workplace to detect systemic issues

### WHO SHOULD ATTEND:

- Design engineers
- Electrical operators
- Maintenance technicians
- Plant electrical engineers
- Project engineers
- Testing and commissioning engineers and technicians



Technology Training that Works

## The Workshop

Employees performing operations and maintenance work on high voltage electrical transmission and distribution systems are exposed to a greater hazard than most other employees. In industry the majority of safety rules and regulations originated from the painful experience of workers who suffered serious injuries or even death. Therefore, rules should not be seen as a means of limiting our freedom, but should rather be looked upon as valuable advice to ensure safe working conditions. This training workshop covers the basic procedures in working safely on high voltage systems including the aspects of safety management and safety auditing.

#### Objectives

The workshop aims to impart a thorough overall knowledge of working safely on high voltage installations and the various related topics including:

- Safety legislation
- Electrical hazards and safety management
- Technical aspects of electrical safety
- Safety in operation and maintenance
- Importance of periodic inspection of electrical installations for ensuring safety
- Safety audits to detect shortcomings

The workshop will include hands-on practice in safety documentation such as development of switching plans and electrical access permits of different types.

#### **Pre-requisites**

- A fundamental knowledge of electrical engineering
- Some experience in operation and maintenance of electrical equipment and/ or electrical networks

# The Program

#### DAY ONE

#### UK LEGISLATION, INCLUDING ON SHORE AND OFF SHORE REQUIREMENTS

- Health and Safety at Work Act
- PUWER regulations
- Electricity at Work Regulations
- Enforcement Management Model (EMM)
- Protocol on work related deaths
- Risk gap

#### OVERVIEW OF BASIC SAFETY REQUIREMENTS

- Risk, danger, shock and burn
- HV consequences
- Zero risk approach
- Elimination, substitution, control, PPE

#### **MANAGEMENT ASPECTS**

- Safety policy, objectives
- Risk assessments and method statements
- Competence
- Training and retraining
- Authorisation including levels of authorisation
- Authorising engineer
- Competent persons
- Authorised persons
- Senior authorised persons
- Communication
- Audit and review

#### EQUIPMENT ASPECTS

- Power system fundamentals
- Circuit breakers and switches
- Operating mechanisms
- Instrumentation, test equipment and testing points
- Standard rating factors, plain break / arc suppression systems
- Insulation types, vacuum, air, SF6
- Protection systems
- System earthing
- Commissioning procedures
- Test equipment

#### DAY TWO

#### **OPERATIONAL ASPECTS**

- Rules, procedures and instructions
- Method statements, risk assessments etcSwitching plan and possibility of back
- feeding etcSafety documents: permits to work, sanctions for test, limitation of access
- Duties of permit issuer and recipient
- Working party control
- Isolation, lockout / tagout
- Caution and danger notices
- Proof of dead
- · Safety earthing

# MAINTENANCE, INSPECTION AND TEST

• Specification for maintenance and inspection routines and frequencies

#### AUDIT AND REVIEW

- Internal or external audit of procedures, rules etc to ensure they are "fit for purpose"
- Safety document audit
- Inspection of equipment, locks, notices etc.
- Audit of persons, training records, authorisations etc.

#### SUMMARY, OPEN FORUM AND CLOSING



# **Practical Sessions**

This is a practical, hands on workshop enabling you to work through practical exercises which reinforce the concepts discussed.

- Development of switching plans
- Operating mechanisms
- Permits to work
- Sanctions for test
- Working party control
- Abnormal event scenarios and how to remedy

To gain full value from this workshop, please bring your laptop/notebook computer.

### **On-Site Training**

- SAVE over 50% by having an IDC workshop presented at your premises.
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- ✓ Have the training delivered when and where you need it.

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