TRAINING TITLE

SAFE AREA RESTORATION - ELECTRICAL MAINTENANCE

Training Duration

5 day

Training Venue and Dates

Ref. No. EE179	**Safe Area Restoration - Electrical Maintenance**	**5**	**11-15 Aug. 2025**	**$5,500**	**DUBAI, UAE**

In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- **$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch**

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

TRAINING DESCRIPTION

The Safe Area Restoration - Electrical Maintenance course is designed to provide electrical maintenance personnel with the knowledge and skills necessary to safely restore electrical systems to operation after maintenance, repairs, or shutdowns in industrial and commercial settings. The course focuses on ensuring that all work is carried out with safety as the top priority, while adhering to electrical standards and regulations. It covers safe practices for isolating, repairing, and energizing electrical systems, ensuring that all work is done with minimal risk to both personnel and equipment. Participants will gain practical skills to implement safe electrical restoration procedures, emergency response techniques, and best practices to avoid common hazards.

TRAINING OBJECTIVES

By the end of the course, participants will be able to understand

- Understand the procedures and safety protocols required for safe electrical system restoration.
- Perform electrical isolation, maintenance, and testing tasks in compliance with industry safety standards.
- Safely conduct fault finding, repairs, and the re-energizing of electrical equipment after maintenance.

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- Apply lockout/tagout (LOTO) and other safety practices to prevent accidents during restoration.
- Assess and mitigate risks associated with electrical work in safe areas.
- Understand electrical protection systems and how to restore them safely to operational status.
- Manage emergencies and hazards that may arise during electrical system restoration.

WHO SHOULD ATTEND?

- Electrical engineers, technicians, and maintenance personnel involved in electrical system restoration and maintenance.
- Supervisors, safety officers, and plant managers overseeing electrical system operations.
- Personnel working in industries such as manufacturing, power generation, oil and gas, and utilities.
- Electrical maintenance workers responsible for de-energizing, isolating, and restoring electrical systems.

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.
Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

COURSE PROGRAM:

Day 1: Introduction to Safe Area Electrical Restoration

- Overview of electrical systems in industrial environments: power distribution, control systems, and protective devices.
- Importance of safe area restoration and the risks involved in electrical maintenance.

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- The role of electrical isolation and de-energization in preventing accidents and ensuring safety.
- Legal and regulatory frameworks governing electrical work (e.g., OSHA, IEC, NFPA 70E).
- Key electrical hazards: electrical shock, arc flash, fire risks, and mechanical hazards.
- Safe work practices and personal protective equipment (PPE) requirements.

Day 2: Electrical Isolation and Lockout/Tagout (LOTO) Procedures

- Introduction to Lockout/Tagout (LOTO): Purpose, procedures, and regulatory compliance (e.g., OSHA 1910.147).
- Safe isolation of electrical circuits and equipment: Types of isolation (switching, grounding, circuit breakers, etc.).
- Performing LOTO on electrical systems and equipment: Locking out energy sources, tagging for identification, and verifying isolation.
- LOTO best practices: Isolation of high-voltage systems, coordination with operators, and using electrical diagrams.
- Risks and challenges during isolation: Common mistakes and how to prevent them.

Day 3: Electrical Equipment Maintenance, Fault Diagnosis, and Testing

- Safe maintenance practices for electrical equipment in safe areas: Motors, transformers, circuit breakers, switchgear.
- Fault diagnosis techniques: Visual inspection, continuity testing, insulation resistance testing, and infrared thermography.
- Key diagnostic tools: Multimeters, clamp meters, insulation testers, and thermal imaging cameras.
- Importance of testing before restoration: Ensuring that equipment is safe to re-energize and meets operational standards.
- Re-energizing electrical systems after maintenance: Proper steps for re-energizing equipment and systems safely.

Day 4: Re-Energizing Electrical Systems and Managing Risks

- Safe procedures for restoring power to electrical systems after maintenance or fault repairs.
- Steps to ensure system integrity before re-energizing: Checking circuits, verifying protection devices, and testing for faults.

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- Handling emergencies during system restoration: Dealing with unexpected faults, arc flash, and other hazardous conditions.
- Risk assessment and hazard mitigation strategies before re-energization.
- Understanding electrical protection systems (fuses, circuit breakers, relays) and ensuring they function correctly before re-energizing.
- Post-restoration checks: Ensuring safe operation of the electrical system once restored to service.

Day 5: Safety Protocols, Emergency Response, and Compliance

- Advanced safety protocols during electrical restoration: Working in high-voltage environments and managing arc flash hazards.
- Emergency response procedures: How to respond to electrical faults, electrical fires, and shock incidents.
- Post-restoration safety inspections: Verifying that electrical systems are operating within safe parameters and meeting compliance requirements.
- Reviewing and adhering to industry standards (IEC 60364, NFPA 70E, IEC 61010).
- Safety audits and regular inspections: Ensuring ongoing compliance with safety standards and continuous improvement of electrical safety practices.
- Final review and assessment of safe area restoration skills.

NOTE:
Pre-& Post Tests will be conducted.
Case Studies, Group Exercises, Group Discussions, Last Day reviews, and assessments will be carried out.

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