Training Program:

Electrical Inspection & Testing Workshop

Introduction:

The electricity companies have to supply electricity to the consumers at the lowest possible cost commensurate with safety. Power cables, Transformers,

Circuit Breakers, RMU, Power supplies (UPS) , Batteries , switchgear , Disconnect switches, Neutral ground resistors (NGR), Power monitoring. CTs, VTs and Protection relays represent a major capital asset for electricity suppliers.

This course is designed to ensure that those responsible for testing, maintenance and monitoring of the electrical components of power system and to understand the characteristics, technical issues that are complying with relevant specifications and requirements.

Who Should Attend?

Electrical power engineers and advanced operating staff of substations, factories, electrical distribution networks and transmission.

Methodology

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Accreditation:

BTS attendance certificate will be issued to all attendees completing a minimum of 80% of the total course duration.

Objective:

At the completion of the course participants are expected to have gained knowledge and experience on how to apply concepts of EMS in a manner that follows international best practice and be aware of the kind of tools appropriate for the task. Outputs of the courses are working knowledge by participants of the subject matter, and reference documentation.

Course Outline

The Technology of Electrical Equipment

- Transformers , Circuit Breakers , oil CB , Air CB , Vacuum CB , SF6 CB , RMU
- Power supplies (UPS), Batteries. Switchgear , CTs , VTs
- Disconnect switches , Neutral ground resistors (NGR)
- Power monitoring , Protection relays , Power cables

The Use of Test Equipment

- Multi-meters , Digital voltmeter (DVM) .Megger (Insulation tester) , Earth tester, Frequency meter , Temperature probes, pyrometers ,Ammeters ,power meters , Load banks ,Cable fault locators , power factor meters , bridges

Inspection and Testing of Electrical Equipment According to Standards

- Methods , Terminology , Principles
- IEC standards
- Special techniques for testing
- Troubleshooting of Electrical Equipment
- Case studies and examples
- Single line drawings
- Group exercises

The Necessity for Inspection and Testing

- Common mode failures
- Phase imbalance , Contact pitting and arcing
- Fusing , Battery cells , Inverters , rectifiers
- Switches , Control circuits , Ground faults

The Interpretation and Use of Drawings and Safety

- Single-line electrical drawings
- Control schematics, wiring lists, Logic and standard symbols.
- Identification of the troubleshooting step-by-step sequence
- Procedure preparation , Documentation
- Safety considerations and training
- A review of Safety Requirements
- Area classifications. NEC electrical codes
- Case Studies, Questions and Answers