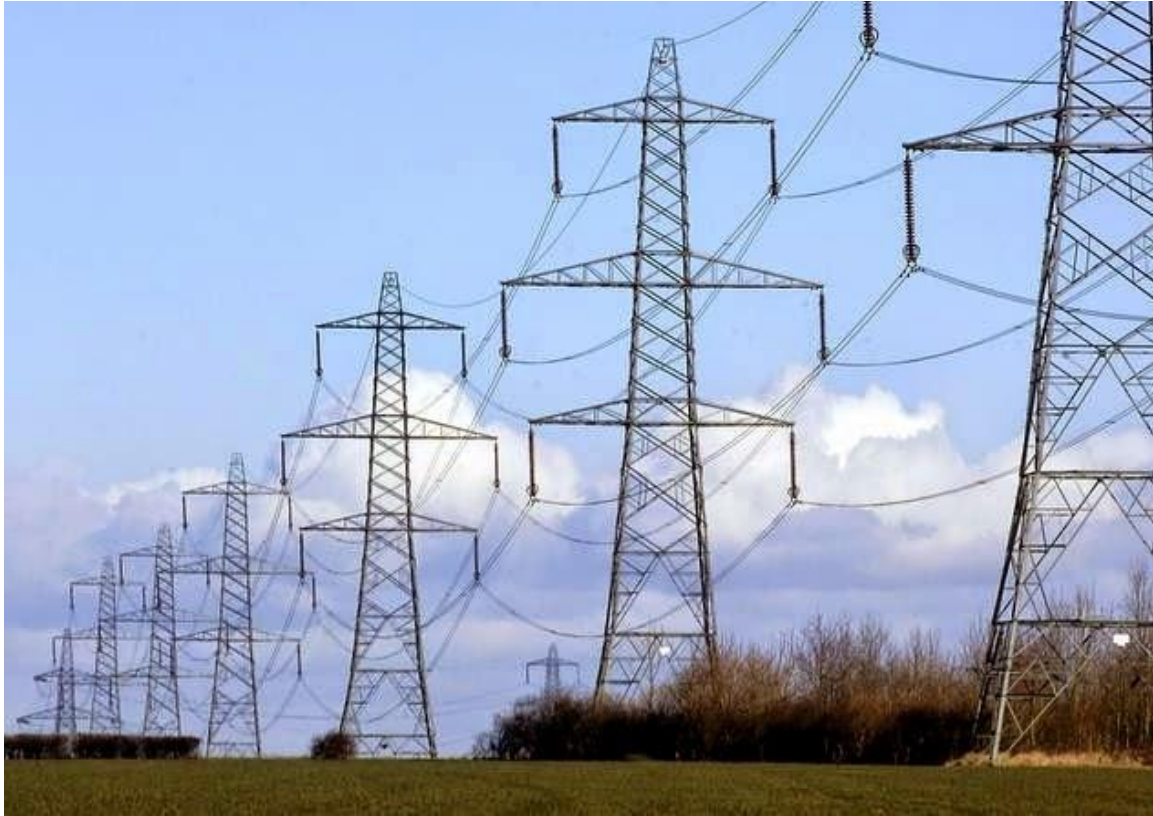




OVERHEAD LINES

Design and O&M

Course Introduction:

Transmission line towers constitute about 28 to 42 percent of the cost of the transmission line. The increasing demand for electrical energy can be met more economically by developing different light-weight configurations of transmission line towers.

Foundation of any structure plays an important role in safety and satisfactory performance of the structure as it transmits mechanical loads of the electrical transmission system to earth. A transmission structure without having a sound and safe foundation, it cannot perform the functions for which it has been designed. The foundations in various types of soils have to be designed to suit the soil conditions of particular type.

In addition to foundations of normal towers, there are situations where considering techno-economical aspect for special towers required or river crossing which may be located either on the bank of the river or in the mid stream or both, pile foundation may be provided.

Course Objectives:

Upon completion of the course, the delegates should be able to:

- Select the type of tower depending on antenna load, footprint, height needed and financial budget.
- To have a base good quality foundation essential for a safe tower with long lift time
- Know that working at high height does always imply danger.
- Use good equipment and play safe.
- Make sure that you have the time that you need. Stress will allow you to make mistakes which can be very costly.
- Always keep in mind the risks of corrosion and prevent it as far as you can.
- Plan for continuous inspections for corrosion and other defects.

Who Should Attend?

This course is intended for Junior & Senior Electrical Engineers, who work in operation, planning, maintenance, protection, control and analysis of Utilities & Industrial Electrical Networks.

Course Outline:

Module 1: Introduction

- Power System
- Types of OHTL
- Check Survey

Module 2: Tower Foundation

- Types of Soil
- Types of foundation
- Foundation in water
- Foundation in hard Soil
- Mixing concrete
- Concrete strength

Module 3: Excavation

- Type of Excavation
- Very Poor Soil Excavation
- Normal soil Excavation
- Hard soil Excavation

Module 04: TAYPES OF FAULTS OF ELECTICAL NETWORKS

- Types of faults for electrical networks
- Human Faults
- Processing (reduce) human errors
- Faults due to Martial
- Faults due to Line Age
- Faults due to External Factors
- Faults due to bad Whether

Module 05: OHTL MAINTENANCE

- Towers maintenance
- Towers test
- Replacement of towers element
- Conductors maintenance
- Conductors joints
- Replacement of damage part of conductor
- Insulator maintenance
- Insulator hot wash
- Replacement Tension insulator
- Replacement Tension insulator
- Replacement suspension insulator

Module 06: SAFETY WHEN WORK ON OHTL

- Methods of securing workers while working on towers

- Methods of protection at work on towers
- Safety distances from ground level or to the nearest conductor
- Electric shock and resuscitation
- The effect of the time of the gravity current time
- Electrical resistance of the human body

Course Methodology:

A variety of methodologies will be used during the course that includes:

- (30%) Based on Case Studies
- (30%) Techniques
- (30%) Role Play
- (10%) Concepts
- Pre-test and Post-test
- Variety of Learning Methods
- Lectures
- Case Studies and Self Questionnaires
- Group Work
- Discussion
- Presentation

Course Certificate:

International Center for Training & Development (ICTD) will award an internationally recognized certificate(s) for each delegate on completion of training.

Course Fees:

To be advised as per course locations. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Practical Session:

"Hands on practical sessions and equipment will be applied during the course. Theory learnt will be applied during the practical session.

Course Timings:

Daily Course Timings:

08:00 - 08:20	Morning Coffee / Tea
08:20 - 10:00	First Session
10:00 - 10:20	Coffee / Tea / Snacks
10:20 - 12:20	Second Session
12:20 - 13:30	Lunch Break & Prayer Break
13:30 - 15:00	Last Session

