

Course Objective

This program provides a comprehensive overview of the Passive Infrastructure elements used in telecom tower site. This program is intended to give an overview of technology and site elements to the field team who manages and maintains the site. This 4-day classroom training helped the participants to learn the basics and understand the best practices, to be followed at any site.

Course Pre-requisites

The course is applicable and useful for all field personnel who maintain/manage telecom passive elements at a site.

Course Outline

1. Basic Technology (DAY 1)
 - Different forms of energy
 - Understanding electrical energy
 - Surge Protection Devices
 - Panels and distribution boards
 - Electrical measurements
 - Earthing
 - Cabling system
 - Telecom site matrix – (active element vs passive element configuration)
 - NMS and NOC

2. Diesel Generator (DG) (DAY 2)
 - Understanding DG
 - DG Layout
 - DG components and their function
 - DG control panel
 - Cooling and lubrication system
 - DG Operation
 - Maintenance schedules
 - Do's and Don'ts
 - Troubleshooting case studies

3. Power Interface Unit (PIU)
 - Introduction to PIU
 - Block diagram of PIU
 - Components of PIU
 - Automation layout
 - PIU alarm panel
 - Do's and Don'ts
 - Troubleshooting case studies

4. DC Power Plant (SMPS) (DAY 3)
 - Introduction to SMPS
 - Specifications of DCPD
 - Components of DCPD
 - DCPD panel
 - Do's and Don'ts
 - Troubleshooting case studies

5. Air-conditioner (AC)
 - Introduction to AC and its purpose
 - AC system functionality
 - Components of AC and their functionality
 - Special ACs used in Telecom sites
 - Safeties in and around AC
 - AC load calculations
 - Alternatives to AC (for indoor sites)
 - Preventive maintenance
 - Do's and Don'ts
 - Troubleshooting case studies

6. Passive Cooling Material (PCM)
 - Introduction
 - Operating principle
 - Types and specifications of PCM

7. Demonstrate and explain each Field Engineer toolkit (DAY 4)
8. Other site elements
 - DC Diesel Generator
 - Integrated PIU/PMS
 - DG Fuel Catalyst
 - Fuel Cell
 - Solar Cells
 - Free-cooling unit (FCU)

9. Practicing Site Safety
 - Hazards related Electrical and Fire safety
 - Practice electrical safety
 - Road Safety
 - Immediate first aid at site
10. Preventive Site Maintenance
11. Tower Inspection – corrective actions / Tower Maintenance