**CERTIFICATE COURSE IN POWER DISTRIBUTION MANAGEMENT**

**Duration: 6 Weeks**

**AIM**

Power distribution forms most crucial chain of the entire electricity business. If this segment is able to demonstrate reliability with commercial viability for every part of network then there is every possibility that the entire power sector will yield positive results. Therefore, there is necessity to modernize and adopt best practices in power distribution sector. The best technology application and adoption of innovative operation and maintenance practices will improve quality and reliability of power supply to customer. Best commercial practices helps in reduction of losses. Refurbishment of HV & LV Distribution system will increase customer satisfaction on the one hand and increase the revenue of the utility on the other. SCADA and automation play important role in safe and reliable operations also help in protection of human and material assets of the organisation. This Programme addresses all such important issues to make a course more relevant to power distribution engineers of the developing countries.

**OBJECTIVES**

* Impart knowledge on best practices in construction of distribution systems
* Orient the participants with advance technologies and systems including IT applications and automation.
* Educate the participants on Standards of Performance and customer relation management.

**CONTENTS OF THE COURSE**

**Introduction**

Power scenario of India and its Organizational Structure

Planning of distribution system, Load Forecasting & Analysis

**Construction, Operation & Maintenance of Distribution System**

Specifications of materials and Construction standards for Distribution systems

Distribution Transformers – Operation & Maintenance & Failure Analysis

Indoor and Outdoor Switchgear – Installation and Maintenance

Adoption of Innovative and Cost Effective Technologies & low cost 33/11 KV SS

Safety Measures and Prevention of Electrical Accidents

Switched Capacitors – HT & LT, Reactive Power Compensation

Earthing System and Protection against Lightning, Surges and Transient

O & M Practices for distribution lines and Sub-stations including recent practices such as condition monitoring and hotline maintenance, Maintenance Free Distribution Transformers

Power System Protection & Relays coordination

**Performance improvement of distribution systems**

Energy Audit & Accounting

Energy Efficiency and Distribution loss assessment and Loss Reduction methodologies

Optimal Integrated Strategy for Loss Reduction and Voltage Improvement

Pilferage & Theft of Energy

Load management & Demand Side Management Techniques

HV Distribution System

Distribution Automation & SCADA and Distribution Franchising

**Revenue management of Power distribution utilities**

Issues and challenges in Metering, Billing & Collection

Electricity metering, billing & collection

Metering Technologies & Advancements

Recent Developments in Metering – Remote, Pre-paid & Pilfer Proof

Smart Metering and Spot Billing technologies

**Power Quality & Customer Service**

Quality of service and Power Supply

Standards of performance for power supply

Customer Relation Management & Consumer Analysis Tools (CAT)

Power Factor Correction and Power Quality issues

SCADA & Integrated Customer Care Center

**Techno Commercial improvements in Distribution sector**

Loss Reduction Practices and Revenue improvements of organization, Tarif Design and Regulatory Issues

**Information Technology (IT)**

Role of IT for Distribution Management

Management Information Systems (MIS) & Consumer Information System (CIS)

Geographical Information Systems (GIS) and Global Positioning Systems (GPS)

Smart Meter & Smart Grid Mobile/Electronic enabled Services

**Exercises**

Voltage Regulation Calculations for 33 KV, 11 KV and LT Lines

Calculation of Line Losses in Distribution, Power Factor Correction exercises, cable selection and Substation Design Exercises, System Improvement Schemes – Methodology

Load Flow Study

**Field Visits**

33/11 KV Substation & HVD Systems,Visits

Transformer Manufacturing & Meter Manufacturing Units