Modern Electrical Transmission and Distribution Systems

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Dubai (UAE)

UK Traininig
PARTNER



Modern Electrical Transmission and Distribution Systems

Ref: 20262849_216466 Duration: Dubai (UAE) Fees: 4900 GBP

Course Description

This comprehensive 1-week course provides an in-depth understanding of modern electrical transmission and distribution systems. Participants will explore the latest technologies, equipment, and operational practices in power systems, including SMART grids. The course covers system components, power flow analysis, voltage regulation, and emerging trends in the electrical power industry.

Learning Objectives

- Understand the fundamentals of modern electrical transmission and distribution systems
- Analyze power flow and voltage regulation in T&D networks
- Evaluate the operation and maintenance of key power system equipment
- Explore SMART grid technologies and their impact on system efficiency
- Assess emerging trends and technologies in the electrical power industry

Course Modules

Day 1: Introduction to Modern T&D Systems

- Overview of generation, transmission, and distribution
- SMART grid concepts and applications
- Power system components and their functions
- Fundamentals of power flow analysis

Day 2: Transmission Systems

- Transmission line components and characteristics
- High voltage equipment and substations
- FACTS devices and their applications
- Transmission system protection and control

Day 3: Distribution Systems

- Distribution network topologies and components
- Distribution transformers and voltage regulation
- Power quality issues in distribution systems
- Distribution automation and control



Day 4: System Operations and Maintenance

- Load modeling and forecasting
- Voltage and reactive power management
- Condition monitoring and predictive maintenance
- Outage management and system restoration

Day 5: Emerging Technologies and Future Trends

- Renewable energy integration challenges
- Energy storage systems in T&D networks
- Microgrids and distributed energy resources
- Cybersecurity in modern power systems

Practical Wins for Participants

- Ability to analyze and optimize T&D system performance
- Skills to implement SMART grid technologies in existing networks
- Techniques for improving system reliability and power quality
- Strategies for integrating renewable energy sources into T&D systems

