

## ELECTRICAL TRANSMISSION LINES

*"Enhancing Knowledge and Best Practices in High-Voltage Power Transmission"*

### Schedule

Date	Venue	Fees (Face-to-Face)
27 - 28 Sep 2026	Doha, Qatar	USD 1,995 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

### Introduction

The design, construction, and maintenance of electrical transmission lines are critical for delivering reliable and efficient power. This course provides participants with a comprehensive understanding of electrical transmission systems, covering technical principles, design considerations, and operational challenges. Participants will gain practical insights into high-voltage transmission, system reliability, and industry best practices.

Through interactive sessions, workshops, and case studies, participants will develop the skills to plan, design, and manage transmission line projects effectively. By the end of the program, attendees will be equipped to optimize transmission line performance, ensure safety compliance, and address operational challenges with confidence.

### Objectives

By the end of this course, participants will be able to:

- Understand the technical principles and design standards of electrical transmission lines.
- Evaluate transmission line performance, reliability, and safety considerations.
- Identify common operational challenges and methods for mitigation.
- Apply best practices in planning, construction, and maintenance of transmission systems.
- Enhance decision-making for efficient and cost-effective transmission line projects.

## Why Attend

- Gain technical expertise in electrical transmission line design and operation.
- Learn practical solutions for operational challenges and performance optimization.
- Ensure compliance with international safety and quality standards.
- Improve project planning, construction, and maintenance capabilities.
- Network and share knowledge with professionals in the power transmission sector.

## Target Audience

This program is designed for:

- Electrical engineers and transmission line designers
- Power system planners and operations managers
- Project managers and construction supervisors in the electrical sector
- Consultants and professionals involved in transmission line projects
- Maintenance and safety personnel in power utilities

## Individual Benefits

Key competencies that will be developed include:

- Mastery of electrical transmission line design principles and standards.
- Ability to evaluate and optimize transmission line performance.
- Enhanced knowledge of operational safety and reliability considerations.
- Practical skills for planning, construction, and maintenance of transmission systems.
- Decision-making capabilities for efficient and cost-effective transmission projects.

## Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved reliability and efficiency of transmission line operations.
- Enhanced adherence to safety and technical standards.
- Reduced operational failures and associated costs.
- Stronger capacity for project planning, execution, and maintenance.
- Improved organizational capability in power transmission management.

## Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - Technical deep dive into transmission line principles and design standards
- Case Studies - Real-world examples of transmission line projects and operational challenges
- Workshops - Hands-on exercises for planning, designing, and maintaining transmission lines
- Peer Exchange - Group discussions on challenges and lessons learned in transmission projects
- Tools - Templates for project design, risk assessment, and maintenance planning

## Course Outline

Detailed 2-Day Course Outline

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Fundamentals of Electrical Transmission Lines

Module 1: Transmission Line Principles (07:30 – 09:30)

- Introduction to high-voltage transmission systems
- Electrical and mechanical design considerations
- System reliability, losses, and efficiency

Module 2: Design and Planning (09:45 – 11:15)

- Route selection, tower design, and conductor selection
- Load flow, voltage regulation, and stability considerations

Module 3: Safety and Standards (11:30 – 01:00)

- Safety codes, regulations, and compliance standards
- Protective measures and fault management

Module 4: Case Study and Practical Workshop (02:00 – 03:30)

- Hands-on exercises in transmission line planning and performance evaluation
- Group discussion and peer feedback

Day 2: Operational Challenges and Maintenance

- Module 1: Transmission Line Operations and Monitoring
- Module 2: Maintenance Planning and Fault Management
- Module 3: Optimization and Reliability Enhancement
- Module 4: Action Planning Workshop and Lessons Learned

## Certification

Participants will receive a Certificate of Completion in Electrical Transmission Lines, validating their expertise in transmission line design, operation, and maintenance best practices.

## Why Choose MAWA Events

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