



SCANDINAVIAN ACADEMY
For Training and Development

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Course: Medium Voltage & High Voltage Switchgear Operations & Maintenance

| Code | City | Hotel | Start | End | Price | Language - Hours |
|--------|------------------|--------------------|------------|------------|--------|------------------|
| MA-424 | Marbella (Spain) | Hotel Meeting Room | 2027-01-25 | 2027-01-29 | 5950 € | En - 25 |

introduction

Medium voltage and high voltage switchgear are critical components in electrical power systems, used to control, protect, and isolate electrical equipment. Proper operations and maintenance of this equipment is essential to ensure the safety and reliability of power systems. This comprehensive course is designed to provide participants with a deep understanding of medium voltage and high voltage switchgear, and the knowledge and skills required for effective operations and maintenance. The course covers a wide range of topics, including switchgear components, operating procedures, maintenance practices, troubleshooting and fault finding, protection systems, testing and commissioning, and best practices for avoiding switchgear failures. The course is designed for engineers, technicians, and other professionals involved in the design, installation, maintenance, and operation of medium voltage and high voltage switchgear. Participants will gain practical knowledge and skills that can be applied in a variety of settings, from industrial plants to utility-scale power systems. Through a combination of lectures, case studies, and hands-on exercises, participants will gain a comprehensive understanding of switchgear operations and maintenance, and the skills needed to ensure the safety and reliability of power systems.

Course Objectives

- Gain a deep understanding of medium voltage and high voltage switchgear, including its components, operating principles, and applications.



- Learn best practices for switchgear operations and maintenance, including procedures for troubleshooting, fault finding, and preventive maintenance.
- Understand the importance of safety in switchgear operations and maintenance and gain practical knowledge and skills for ensuring safe and reliable operations.
- Gain practical experience in testing and commissioning of switchgear, including procedures for documentation and reporting.
- Learn from real-world examples of switchgear failures and best practices for avoiding failures in the future.
- Understand the latest trends and technologies in switchgear operations and maintenance, and their implications for power systems.
- Develop practical knowledge and skills that can be applied in a variety of settings, from industrial plants to utility-scale power systems.

Course outline

Module 1: Introduction to Medium Voltage & High Voltage Switchgear

- Overview of switchgear and its applications
- Switchgear components and functions
- Types of switchgear and their applications
- Safety considerations for switchgear operations and maintenance

Module 2: Medium Voltage Switchgear Operations & Maintenance

- Overview of medium voltage switchgear
- Medium voltage switchgear components and functions
- Operating and maintenance procedures for medium voltage switchgear
- Troubleshooting and fault finding in medium voltage switchgear

Module 3: High Voltage Switchgear Operations & Maintenance

- Overview of high voltage switchgear



- High voltage switchgear components and functions
- Operating and maintenance procedures for high voltage switchgear
- Troubleshooting and fault finding in high voltage switchgear

Module 4: Circuit Breakers

- Types of circuit breakers and their applications
- Operating principles of circuit breakers
- Maintenance procedures for circuit breakers
- Troubleshooting and fault finding in circuit breakers

Module 5: Transformers

- Types of transformers and their applications
- Operating principles of transformers
- Maintenance procedures for transformers
- Troubleshooting and fault finding in transformers

Module 6: Protection Systems

- Overview of protection systems
- Types of protection systems and their applications
- Operating principles of protection systems
- Maintenance procedures for protection systems
- Troubleshooting and fault finding in protection systems

Module 7: Testing & Commissioning

- Overview of testing and commissioning
- Testing procedures for switchgear, circuit breakers, transformers, and protection systems
- Commissioning procedures for switchgear and associated equipment
- Documentation and reporting requirements for testing and commissioning



Module 8: Case Studies & Best Practices

- Real-world examples of switchgear operations and maintenance best practices
- Lessons learned from switchgear failures.
- Best practices for avoiding switchgear failures.
- Future trends in switchgear technology and maintenance



The Scandinavian Academy for Training and Development adopts the latest scientific and professional methodologies in training and human resource development, aiming to enhance the efficiency of individuals and organizations. Training programs are delivered through a comprehensive approach that includes:

- Theoretical lectures supported by PowerPoint presentations and visual materials (videos and short films).
- Scientific evaluation of participants before and after the program to measure progress and knowledge acquisition.
- Brainstorming sessions and practical role-playing to simulate real-life scenarios.
- Case studies tailored to align with the training content and participants work nature.
- Assessment tests conducted at the end of the program to evaluate the achievement of training objectives.

Each participant receives the training material (both theoretical and practical) in printed form and saved on a CD or flash drive. Detailed reports, including attendance records, final results, and overall program evaluations, are also provided.

Training materials are prepared professionally by a team of experts and specialists in various fields. At the end of the program, participants are awarded a professional attendance certificate, signed and accredited by the Scandinavian Academy for Training and Development.

Program Timings:

- 9:00 AM to 2:00 PM in Arab cities.
- 10:00 AM to 3:00 PM in European and Asian cities.

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.