

Scandinavian Academy
Training Center

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Riyadh - Al Khaleej District - Sheikh Abdul Aziz Bin Abdul Rahman Bin Bishr Street - 13223 - Office No. 5 | P.O.BOX : 13224

Course: Electric Power Distribution System For Industrial Plants

Code	City	hotel	Start	End	price	Language - Hours
EE-577SA	Al Khobar	Hotel Meeting	2027-07-18	2027-07-22	12950 SR	En - 25

Introduction

Electric power distribution system plays an important role in the efficient operation of a modern industrial plant. Such a system includes high voltage circuit breakers, switchgear, transformers, motor control centers, electric motors, variable speed drives, etc. A trouble-free electrical system is essential for an interruption-free plant operation. This course will cover all aspects of power distribution, including system planning, equipment selection and application, system grounding, protection and conformity with electrical code requirements, etc. Participants will work under instructor guidance to develop a power distribution system single line diagram for a typical industrial plant.

Objectives

- Plan your system and select equipment for it.
- Benefit from a clear understanding of all aspects of power distribution system
- Apply the Electrical Code to your projects
- Deal with the important issues such as load estimating, voltage selection, shortage circuit studies and power protection
- make your distribution system more efficient by applying your new knowledge of the power distribution system and equipment

Outlines

System Planning As Applicable To Industrial Plants

- Load estimates
- Voltage considerations and flicker
- Distribution types
- Substation bus arrangements
- Review of a conceptual single line diagram

Short Circuit Studies For Equipment Rating And Relaying

- Applicable standards
- Method of calculations
- System and equipment data
- An example using hand calculations

Load Flow Calculations

- Importance of load flow
- Voltage drop considerations
- Voltage instability
- Loss of a source
- Effect of current limiting reactors
- Optimization of load flow

System Neutral Grounding

- Ungrounded
- High resistance
- Low resistance
- Solidly grounded systems
- Cable insulation and system grounding
- Generator neutral grounding

Review Of Major Equipment

- Motor control centers, switchgear, power transformers
- Application of power cables
- Application of electric motors
- Surge arresters
- Harmonics in power systems and impact of non-linear loads
- Capacitor applications
- Instrument transformers

Workshop – Development Of Single Line Diagrams

Protective Devices And Relay Setting

- Protection and co-ordination principles
- Feeder and bus protection
- Protection of medium voltage motors
- Transformer protection
- Generator protection
- Relay settings and co-ordination curves

The Scandinavian Academy for Training Center 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 Center.

Program Timings: 9:00 AM to 2:00 PM

The program includes:

- A daily buffet provided during the sessions to ensure participants comfort.
- A closing ceremony on the final day to distribute certificates and celebrate participants achievements.
- **Note: All prices are exclusive of 15% Value Added Tax (VAT).**

Our Success Partners

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