



Petroleum, Oil & Gas



SCANDINAVIAN ACADEMY
Training and Development

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Course: Cathodic Protection and Chemical Treatment

Code	City	hotel	Start	End	price	Hours
371	Madrid (Spain)	Hotel Meeting Room	2024-06-24	2024-06-28	5450 €	25

Overview :

Maintaining the ageing infrastructure such as underground pipelines is a challenge to the oil and gas industry worldwide. Understanding why and how cathodic protection works or fails can help the operator formulate appropriate strategy in managing the pipeline corrosion problems. This five-day course covers both the fundamentals and practices in designing, operating and maintaining cathodic protection of underground pipelines. An overview of the NACE standard on "Pipeline External Corrosion Direct Assessment Methodology" will also be presented.

Objectives of the training program:

- Draw a simple model of a Cathodic Protection cell and name the different elements
- Name 2 types of Cathodic Protection Systems
- Explain the relationship between Coatings and Cathodic protection
- Name and describe 2 different testing methods used to test Cathodic Protection
- Understand terminology commonly used when discussing Cathodic Protection

Course Outline

• Day 1

- Primer on Chemistry and Metallurgy
- Fundamentals of corrosion
- Cathodic Protection
- Sacrificial Anode Cathodic Protection
- Impressed Current Cathodic Protection
- Criteria for Cathodic Protection
- Reference potential devices

• Day 2

- Potential measuring instrument
- Soil resistivity test instruments
- Wall thickness and pit gages
- Current interrupters
- Test rectifiers
- HoliModule detectors



- Electrical resistivity

- **Day 3**

- Resistance of ground connection
- Non-uniform electrolyte
- Groundbed Design
- Long pipelines and pipe insulating joints
- Stray current corrosion and electrolysis
- Practical stray current problems

- **Day 4**

- Interference from other CP installations
- Effectiveness of coatings
- Coatings specification
- Coatings inspection
- Type of pipeline coatings
- Coating failures and analysis

- **Day 5**

- Cathodic Protection and Coatings
- Survey methods for pipeline not under cathodic protection
- Survey methods for pipeline under cathodic protection
- Overview of NACE Standard on “Pipeline External Corrosion Direct Assessment Methodology”
- Corrosion Inhibitors
- Scale Inhibitors
- Biocides



The Scandinavian Academy employs modern methods in training and skills development, enhancing the efficiency of human resource development. We follow these practices:

- **Theoretical Lectures:**
 - We deliver knowledge through advanced presentations such as PowerPoint and visual materials, including videos and short films.
- **Scientific Assessment:**
 - We evaluate trainees skills before and after the course to ensure their progress.
- **Brainstorming and Interaction:**
 - We encourage active participation through brainstorming sessions and applying concepts through role play.
- **Practical Cases:**
 - We provide practical cases that align with the scientific content and the participants specific needs.
- **Examinations:**
 - Tests are conducted at the end of the program to assess knowledge retention.
- **Educational Materials:**
 - We provide both printed and digital scientific and practical materials to participants.
- **Attendance and Final Result Reports:**
 - We prepare detailed attendance reports for participants and offer a comprehensive program evaluation.
- **Professionals and Experts:**
 - The programs scientific content is prepared by the best professors and trainers in various fields.
- **Professional Completion Certificate:**
 - Participants receive a professional completion certificate issued by the Scandinavian Academy for Training and Development in the Kingdom of Sweden, with the option for international authentication.
- **Program Timings:**
 - Training programs are held from 10:00 AM to 2:00 PM and include buffet sessions for light meals during lectures.