COURSE BROCHURE

Corrosion Control and Protection

A practical course on corrosion mechanisms in oil and gas facilities, protection with coatings, cathodic protection and inhibitors, and monitoring how well they work.

Code	HT-OGE-107
Category	Oil & Gas, Engineering & Maintenance
Duration	1 week
Level	Intermediate

Introduction

Corrosion works silently around the clock inside pipes, under insulation, in soil and in seawater. Unless its cause is understood at each location, protection measures remain costs that cannot promise the result expected of them.

Objectives

- Explain the electrochemical mechanism of corrosion and what drives its rate
- Recognize the main forms of corrosion in oil and gas facilities and their causes
- Select coating systems, specify surface preparation and inspect application quality
- Understand sacrificial anode and impressed current cathodic protection design and assess performance
- Manage chemical inhibitor and corrosion monitoring programs and interpret their results

Who should attend

- Corrosion and materials engineers
- Cathodic protection and corrosion monitoring technicians
- Coating and static equipment inspectors
- Pipeline and process engineers in production facilities

Skills you will develop

- Identifying corrosion mechanisms
- Coating system selection
- Cathodic protection assessment
- Corrosion monitoring and data interpretation

Learning Outcomes

- Identify likely corrosion mechanisms on a sample production facility diagram and propose a control for each
- Draft a short coating specification covering surface preparation, coats and inspection points
- Interpret a potential survey on a cathodically protected pipeline and flag sections needing action
- Analyze weight-loss coupon and electrical resistance probe data to assess an inhibitor program

Course Outline

Day 1: Corrosion Fundamentals

- The electrochemical cell and anodic and cathodic reactions
- How temperature, pressure, pH and velocity affect corrosion
- Galvanic corrosion and the galvanic series

Day 2: Forms of Corrosion in the Industry

- Sweet CO2 corrosion and sour H2S corrosion
- Pitting, crevice, erosion and microbially influenced corrosion
- Stress corrosion cracking and corrosion under insulation

Day 3: Materials and Coatings

- Materials selection and corrosion allowance in design
- Coating types, surface preparation and application requirements
- Coating inspection and common causes of failure

Day 4: Cathodic Protection

- How cathodic protection works and the protection criteria in AMPP standards
- Sacrificial anode and impressed current systems and their components
- Potential surveys, stray current interference and system maintenance

Day 5: Inhibitors and Monitoring

- Types of chemical inhibitors, injection methods and measuring effectiveness
- Weight-loss coupons, probes and thickness measurement
- Applied project: an integrated corrosion control and monitoring plan for a sample transmission pipeline

Training methodology

Examining corroded metal samples to identify the form of attack and its likely cause
Writing a coating specification and reviewing a sample application inspection report
Analyzing sample cathodic protection survey data plotted along a pipeline route
Calculating corrosion rates from coupon and probe data and judging an injection program

Certification

Participants receive a Harbor Training Center certificate of attendance on completing the course.

Upcoming dates

City	Dates	Language	Fee
Online	7 – 11 December 2026	AR	EUR 2,800
Istanbul	3 – 7 May 2027	EN	EUR 5,400
Dubai	10 – 14 May 2027	AR	EUR 4,800
London	17 – 21 May 2027	EN	EUR 5,800
Amsterdam	24 – 28 May 2027	AR	EUR 6,100
Online	7 – 11 June 2027	EN	EUR 2,800
Istanbul	1 – 5 November 2027	AR	EUR 5,400

Fees are per participant.

Contact us

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To register and for details, scan the code or visit:

https://harbor4training.com/en/courses/corrosion-control