FLOW ASSURANCE & WATER HANDLING

Corrosion

ABOUT THE COURSE

For several decades, crude oil has played a fundamental role in industrial development and economic activity. Advances in crude production processes have improved efficiency, while safety remains a priority. Consequently, significant efforts have been devoted to properly designing production and transportation systems that must operate under a wide range of field conditions.

Corrosion is one of the most significant threats to the service life of facilities and pipelines, with the potential to drastically shorten their operational lifespan. Once leakage occurs, the industry must face serious consequences—ranging from safety hazards to environmental damage and substantial economic losses. Therefore, corrosion control must be a key consideration in all stages of crude oil production and transportation.

DESIGNED FOR

This course is particularly tailored for petroleum production engineers, laboratory personnel, field operators, system designers, and anyone seeking practical experience in this field, including researchers or managers who want to understand technical issues that support effective decision-making.

YOU WILL LEARN

Upon successful completion of the course, participants will be able to:

- Gain a comprehensive understanding of corrosion phenomenon
- Identify forms of corrosion and related parameters affecting corrosion to identify potential threats
- Get insight in modelling of CO2, H2S and CO2/H2S corrosion and microbiologically influenced corrosion
- Design cost-effective, efficient, and reliable mitigation strategies that maintain production targets and extend equipment service life while complying with environmental regulations
- Conduct Risk-Based Inspection (RBI) in terms of both the probability of failure and the consequence of failure to provide a unique view of the condition of each asset of interest.
- Define evaluation criteria and calculate Key Performance Indicators (KPIs) related to corrosion, inorganic and organic scaling, and produced water treatment for disposal or reinjection

YOU WILL LEARN

Corrosion - *Fundamentals and Forms of Corrosion:*

- Introduction
- Parameters Affecting Corrosion
- Forms of Corrosion
- Corrosion of Multiphase Flow Pipelines: The Impact of Crude Oil
- Gas Pipelines
- Strategies for Preventing Metal Corrosion
- Modelling of CO_2 Corrosion
- Modelling of H_2S Corrosion
- Modeling of CO_2/H_2S Corrosion
- Microbiologically Influenced Corrosion
- Key Performance Indicators
- Risk-Based Inspection (RBI)

COURSE DELIVERY METHOD

The course will consist of lectures supported by worked examples, and case studies. In addition, participants are encouraged to bring their own examples for in-class discussion and analysis.

Instructor

Snežana Šević holds a B.Sc., M.Sc. and Ph.D. from the Faculty of Technology, University of Novi Sad, and has 40 years of experience in the oil and gas industry. Her areas of expertise include diagnosing issues arising from produced fluid properties; conducting risk analyses and recommending flow assurance management programs during fluid production, gathering, treatment, and transportation; modeling of flow assurance issues, simulation, and optimization of process systems.

She has worked with PM Lucas d.o.o., NIS-Gazprom Neft, and Qimica Apollo – Mexico. She has been involved in over 50 projects across Serbia, Mexico, Kazakhstan, and Russia. Dr. Šević has authored over 30 scientific and technical papers, a book titled *The Impact of Formation Water on Oil and Gas Production and Transportation*, and has supervised several undergraduate, master's, and doctoral theses. In 2018–2019, she was selected as a Distinguished Lecturer by SPE and was part of the SPE E-Mentoring Program for five years.