



HARNESS THE POWER
OF KNOWLEDGE

**Flow Assurance in Production
Systems: Comprehensive
Strategies for Maintaining Flow
and Preventing Production
Problems**

TRAIN



Course Overview:

Flow assurance is a critical aspect of oil and gas production, ensuring the efficient and uninterrupted flow of hydrocarbons from the wellbore to the central processing facility (CPF)

This comprehensive 5-day professional training course will provide a thorough understanding of flow assurance principles, challenges, and methodologies for maintaining flow and preventing production problems in various production scenarios

Course Objectives:

By the end of this course, participants will be able to:

1

Grasp the fundamental principles of flow assurance and its importance in oil and gas production

2

Identify the different types of flow assurance challenges, such as hydrates, wax deposition, and multiphase flow

3

Understand the flow assurance considerations for various production systems, including subsea systems, surface facilities, and pipelines

4

Apply flow assurance principles and methodologies to prevent flow assurance problems and maintain production efficiency

5

Design and implement flow assurance strategies for specific production scenarios, such as deepwater production, high-viscosity fluids, and unconventional resources

6

Analyze flow assurance data and logs to identify potential hazards and implement preventive measures

Course Agenda:

Day 1: Introduction to Flow Assurance and Its Importance

- Delve into the history and evolution of flow assurance in oil and gas production
- Explore the regulatory framework and operational standards governing flow assurance practices
- Discuss the economic and environmental impact of flow assurance problems
- Analyze the applications of flow assurance principles in various production environments

Day 2: Flow Assurance Challenges and Multiphase Flow Principles

- Identify the different types of flow assurance challenges, including hydrates, wax deposition, sand production, and corrosion
- Understand the fundamental principles of multiphase flow, including flow regimes, pressure drop, and heat transfer
- Discuss the impact of fluid properties, reservoir characteristics, and production conditions on flow assurance
- Explore advanced flow assurance modeling techniques for complex production scenarios

Day 3: Flow Assurance Strategies for Subsea Systems

- Analyze the flow assurance challenges and considerations for subsea production systems
- Discuss the application of subsea flow assurance technologies, such as gas lift, methanol injection, and pipeline heating
- Design and implement flow assurance strategies for subsea tiebacks, multiphase flowlines, and production risers
- Explore advanced subsea flow assurance monitoring and control systems

Day 4: Flow Assurance Strategies for Surface Facilities and Pipelines

- Identify the flow assurance challenges and considerations for surface production facilities and pipelines
- Discuss the application of surface flow assurance technologies, such as separators, heaters, and pigging

systems

- Design and implement flow assurance strategies for onshore and offshore pipelines, including flowline sizing, pigging frequency, and corrosion protection
- Explore advanced pipeline flow assurance monitoring and control systems

Day 5: Flow Assurance Optimization, Case Studies, and Future Trends

- Analyze techniques for optimizing flow assurance performance and reducing production downtime
- Discuss the application of artificial intelligence and machine learning in flow assurance monitoring and predictive analytics
- Analyze real-world case studies of successful flow assurance solutions and lessons learned
- Explore emerging trends in flow assurance, such as digital twins, real-time simulation, and data-driven decision-making

Who Should Attend:

- Petroleum engineers, reservoir engineers, and production engineers involved in flow assurance design, implementation, and troubleshooting
- Production supervisors, field personnel, and CPF operators responsible for maintaining flow assurance in production systems
- Flow assurance equipment manufacturers and service company personnel engaged in flow assurance system design, installation, and optimization

Course Benefits:

- Develop a comprehensive understanding of flow assurance principles, challenges, and methodologies
- Gain hands-on experience in flow assurance design, optimization, and troubleshooting through case studies and real-world scenarios
- Enhance your ability to identify and mitigate flow assurance problems, ensuring efficient production and preventing costly downtime
- Stay updated on the latest advancements in flow assurance technologies and optimization methodologies
- Network with other professionals from diverse backgrounds within the oil and gas industry to share knowledge and experiences