Optimization of Oil and Gas Facilities Design and Operations

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5 days training course

For detailed information on training course dates, please click the link:

Optimization of Oil and Gas Facilities Design and Operations.

Introduction

This comprehensive 5-day training course focuses on optimizing the design and operations of oil and gas facilities. Participants will learn how to improve production efficiency, reduce downtime, and minimize costs across all stages of the oil and gas lifecycle. With a focus on field processing, water injection, gas handling, midstream transportation, and more, this course is designed to provide practical, real-world strategies for optimizing facility operations and maximizing profitability.

Who Should Attend?

This course is designed for professionals in the oil and gas industry who are involved in the design, operation, and optimization of facilities. It is ideal for:

- Facility Managers
- Operations Managers
- Design Engineers
- Project Managers
- Maintenance Managers
- Process Engineers
- Production Engineers
- Midstream Operations Managers
- Energy and Environmental Consultants
- Professionals involved in Oil & Gas Supply Chain and Logistics

Course Objectives

By the end of this course, participants will:

- Gain a deep understanding of the oil and gas infrastructure and equipment needed to optimize production.
- Learn how to manage lifecycle costs for oil and gas facilities to maximize both short-term and long-term returns.
- Understand how to optimize water injection, gas handling, and midstream transportation systems for greater efficiency.
- Develop strategies for improving operations and reducing downtime across oil and gas facilities.
- Acquire hands-on experience in analyzing and optimizing facility designs and operations.

Course Outline:

Day 1: Oil & Gas Infrastructure

- **Field Processing Facilities**
  - Understanding the design and operation of processing facilities to optimize production and minimize downtime.
- **Water Injection Systems**
  - Analyzing seawater sourcing, treatment, transportation, and the role of water injection in production optimization.
- **Power Generation, Supply, and Field Electrification**
  - Key factors influencing energy requirements for oil and gas facility design and operations.
- **Refining Facilities**
  - Optimizing refining processes for higher efficiency and cost savings.
- **Lifecycle Cost Analysis**
  - Assessing lifecycle costs to optimize short-term and long-term investments.

Day 2: Oil & Gas Equipment and Processes

- **Flowlines**
  - Studying efficient flowline designs for oil and gas transportation systems.
- **Crude Separation**
  - Optimizing the crude oil separation process to enhance production efficiency.
- **Oil Desalting**
  - Improving desalting processes in refining operations for better oil quality.
- **Gas Handling and Compression**
  - Understanding and optimizing gas operation for efficient handling and compression.
- **Oil Pumping**
  - Assessing and improving oil pumping systems to boost operational efficiency.

Day 3: Water Injection

- **Seawater Sourcing, Treatment, and Transportation**
  - Efficient systems for sourcing and transporting seawater used in injection processes.
- **Aquifer Water**
  - Best practices for utilizing aquifer water in oil field operations.
- **Supply Lines, Injection Pumps, and Lines**
  - Optimizing water injection infrastructure.
- **Produced Water Handling and Reinjection**
  - Improving the management of produced water and reinjection techniques.
- **Pump Selection (Types and Sizing)**
  - Understanding pump technologies for selecting the right type and size for water injection.

Day 4: Midstream Transportation

- **Pump Station Types**
  - Understanding pump station designs and roles in midstream transportation.
- **Power Sourcing and Generation**
  - Key considerations for sourcing and generating power for transportation systems.
- **Infrastructure Requirements**
  - Optimizing midstream infrastructure for improved transport.
- **Optimizing Size, Number, and Location of Stations**
  - Efficiently sizing and locating transportation stations.
- **Monitoring and Control**
  - Understanding systems for monitoring and controlling midstream operations.

Day 5: Gas Operations

- **Determining Gas Rate and Specification**
  - Best practices for determining gas flow rates and specifications.
- **Calculating the Gas Energy Value**
  - Evaluating the economic potential of gas energy content.
- **Options for Gas (Flare, Process, Use, or Sell)**
  - Assessing options for managing excess gas.
- **Assessing the Processing Requirement**
  - Evaluating the need for gas processing to ensure efficiency.
- **Evaluating Economics**
  - Analyzing the economic impact of gas operation options and improving financial returns.

DOCUMENTATION

The **MTC team** has meticulously prepared **high-quality training materials** for distribution to all delegates.

CERTIFICATES

An **accredited Certificate of Completion** will be awarded to participants who successfully attend and complete the program.

SCHEDULE

Course sessions are scheduled as follows:

- **Morning Session:** 09:00 AM – 1:00 PM
- **Afternoon Session:** 01:00 PM – 05:00 PM

REGISTRATION & PAYMENT

To register, please complete the **registration form** available on the course page and submit it with your **preferred payment method**. Alternatively, you can contact us via **email or WhatsApp** for assistance.

TRAVEL & TRANSPORT

We ensure a **seamless travel experience** by providing **airport-hotel-airport** transfers for all participants.