BLACKBIRD FOR TRAINING

Optimization of Oil and Gas Facilities Design and Operations

Orlando, Florida (USA)

6 - 10 October 2025

UK Traininig

PARTNER

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Optimization of Oil and Gas Facilities Design and Operations

Code: OG28 From: 6 - 10 October 2025 City: Orlando, Florida (USA) Fees: 6400 Pound

Introduction

Developing new oil and gas fields and operating existing ones are ever increasing in costs and challenges. New oil and gas fields require careful long-term planning to be flexible over longer periods of operations and wider production ranges to minimize any required modifications of facilities, which can result in staggering capital costs requirement and lengthy shutdowns.

On the other hand, many existing fields are getting depleted and becoming harder to produce. To name a few challenges faced - higher water rates to handle, increased need of artificial lift systems, old systems becoming obsolete with new technologies are emerging and new stricter environmental standards are forced. This makes it imperative to consider systematic periodic reviews of the existing facilities, addressing both their design and operational modes and methods. This will reduce costs of implementing modifications on the existing facilities set-up or utilized operational methods.

This Optimization of Oil and Gas Facilities Design and Operations training course is focused on recent methodologies to evaluate various upstream, midstream, and downstream facilities operation and design. The training course is enriched with real field cases, providing a step-by-step approach to assess a given field's existing facilities. It is also aimed for value engineering and optimizing the proposed design of new increments and field developments.

Course Objectives

- Compare alternatives from operational and economical perspectives.
- Assess processing facilities and their capacities.
- Understand midstream operations and its components.
- Develop integrated oil and gas production and water injection systems.
- Pinpoint bottlenecks and propose remedial modifications .

Course Outlines

Day 1
Oil & Gas Infrastructure

- Field processing facilities.
- Water injection .
- Power generations, supply, and field electrification.
- Refining facilities.
- Lifecycle costs analysis.

Day 2

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Oil & Gas Equipment and Processes

- Flowlines.
- Crude Separation.
- Oil Desalting.
- Gas handling and compression.
- Oil pumping.

Day 3
Water Injection

- Seawater sourcing, treatment, and transportation.
- Aquifer water.
- Supply lines, injection pumps and lines.
- Produced water handling and reinjection.
- Pumps selection types and sizing.

Day 4
Midstream Transportation

- Pumps station types.
- Power sourcing and generation.
- Infrastructure requirement.
- Optimizing number, location, and size with the transportation lines' sizes.
- Monitoring and control.

Day 5
Gas Operations

- Determining gas rate and specification.
- Calculating the gas energy value.
- Defining options: to flare, process, use at location, or sell directly to grid.
- Assessing the processing requirement.
- Evaluating economics.

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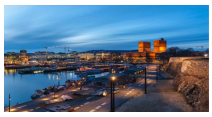
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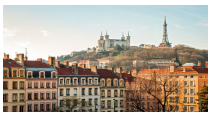
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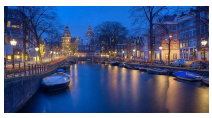
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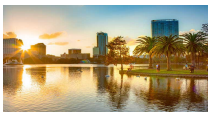
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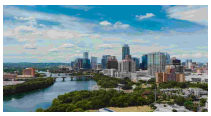
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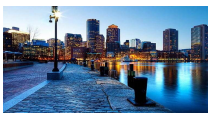
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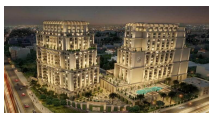
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