

TRAINING TITLE

ADVANCED REFINERY OPERATIONS

Training Duration

5 days

Training Venue and Dates

RE058	Advanced Refinery Operations	5	02 – 06 Sep. 2024	\$5,500	Doha, Qatar
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In any of the 4 or 5-star hotels. The exact venue will be informed later.

Training Fees

- \$5,500 per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Lunch

Training Certificate

Define Management Consultancy & Training Certificate of course completion will be issued to all attendees.

TRAINING WORKSHOP DESCRIPTION

Refinery processes consist of many complex apparatuses involving both moving and static parts as well as interconnecting pipes, control mechanisms and electronics, mechanical and thermal stages, heat exchangers, waste and side product processing units, power ducts and many others. Bringing such a complicated unit online and ensuring its continued productivity requires substantial skill at anticipating, detecting and solving acute problems. Failure to identify and resolve these problems quickly can lead to lost production, off-spec product, equipment loss, and even catastrophic accidents. Therefore, the ability to troubleshoot refinery operations is one of the most valuable skills operations personnel can possess.

TRAINING OBJECTIVES:

Upon the successful completion of this course, each participant will be able to:

- Apply and gain an in-depth knowledge on advanced refinery operations
- Discuss petroleum refinery process including crude processing, desalting, atmospheric distillation and vacuum distillation
- Explain heavy oils processing and bottom of the barrel upgrading covering the coking and thermal processes, delayed coking, fluid coking, flexi coking and vis breaking
- Carry out process of production that covers the fluid catalytic cracking, hydrocracking, cat cracking, isomerization, alkylation, hydrotreating and catalytic reforming

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- Review process operations key operational conditions and factors as well as discuss blending for product specifications, hydrogen production, refinery gas plants and acid gas treating
- Identify process troubleshooting including troubleshooting concepts and techniques, troubleshooting tools, typical problems, flooding and its detection
- Determine refinery economics comprising of residue reduction, asphalt and residual fuel, refinery complexity and netback

WHO SHOULD ATTEND?

This course is suitable for the following audience:

- Production Engineers
- Operations Engineers
- Refinery Team Leaders
- Process Engineers
- Process Technical Staff
- Plant Supervisors, Lead Operators Control Room Operators & Shift Supervisors

TRAINING METHODOLOGY

A highly interactive combination of lectures and discussion sessions will be managed to maximize the amount and quality of information and knowledge transfer. The sessions will start by raising the most relevant questions and motivating everybody to find the right answers. You will also be encouraged to raise your questions and to share in the development of the right answers using your analysis and experiences. Tests of the multiple-choice type will be made available daily to examine the effectiveness of delivering the course.

Very useful Course Materials will be given.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Group Work& Practical Exercises
- 20% Videos& General Discussions

COURSE OUTLINE

Day 1

- Petroleum Refinery Process
- Crude Processing
- Desalting
- Atmospheric Distillation
- Vacuum Distillation

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- Heavy Oils Processing/Bottom of the Barrel Upgrading (Cocking & Thermal Processes, Delayed
- Process of Production
- Heavy Oils Processing/ Bottom of the Barrel Upgrading (Cocking & Thermal Processes, Delayed Coking, Fluid Coking, Flexi coking, Vis breaking)
- Process of Production

Day 2

- Fluid Catalytic Cracking
- Hydrocracking
- Cat Cracking
- Isomerization
- Alkylation
- Hydrotreating
- Catalytic Reforming

Day 3

- Process Key Operational Conditions & Factors
- Blending for Product Specifications
- Hydrogen Production
- Refinery Gas Plants
- Acid Gas Treating
- Utilities
- Sulfur Recovery Plants

Day 4

- Utilities
- Oil & Gas Measurement & Control
- Process Troubleshooting Concepts & Techniques
- Troubleshooting Tools
- Typical Problems
- Flooding & its Detection
- Interaction of Process & Equipment

Day 5

- Saltation & Entrapment
- Tower Scan & Inspection
- Refinery Economics
- Residue Reduction
- Asphalt & Residual Fuel

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- Refinery Complexity & Netback
- Economic Evaluation
- Cost Estimation

NOTE:

Pre & Post Tests will be conducted.

Case Studies, Group Exercises, Group Discussions, Last Day Review, and assessments will be carried out.

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