

BASIC REFINERY OPERATIONS

RFP002

COURSE DESCRIPTION

The Basic Refinery Operations training course offers a comprehensive exploration of the refining process, spanning from crude oil feed to the production of finished products. Participants will delve into crucial refining processes, covering feedstock, preparation, operating conditions, catalysts, yields, product properties, and the economic aspects of refining units. The course prioritizes practical insights into refinery operations, ensuring a solid grasp of the terminology and economic principles involved.

COURSE GOAL

The primary goal of this course is to enrich participants' knowledge, skills, and abilities, equipping them with a thorough understanding of basic refinery operations and blending methods.

COURSE OBJECTIVES

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

- Understand plant equipment systems.
- Understand fluid storage, heating, cooling, and flow control.
- Understand furnace and distillation process systems.
- Understand reactor process systems.
- Understand refinery instrumentation.
- Understand the intricacies of refinery operations.
- Understand main operator responsibilities.
- Understand blending methods and operations.

WHO SHOULD ATTEND

This course is suitable for individuals seeking a foundational understanding of refinery operations, including entry-level refinery personnel, process engineers, maintenance technicians, health and safety professionals, environmental compliance officers, and individuals transitioning to roles within the oil and gas industry.

COURSE DURATION

5 Working Days

COURSE OUTLINES

1. Overview of Plant Equipment Systems

- Introduction to the equipment used in refinery operations.

2. Fluid Storage and Flow Control

- Understanding fluid storage systems.
- Overview of flow control mechanisms.

3. Fluid Heating and Cooling:

- Principles of fluid heating.
- Techniques for fluid cooling.

4. Furnace & Distillation Process Systems

- Examination of furnace systems.
- In-depth understanding of distillation processes.

5. Reactor Process Systems

- Exploration of operational characteristics.
- Focus on the Alkylation Unit and Cat Cracker.

6. Refinery Instrumentation

- Overview of process variables and control systems.
- Examination of measuring and indicating instruments.

7. Refinery Operations

- Insight into control room operations.
- Understanding off-site operations.
- Overview of combined operations.

8. Main Operator Responsibilities

- Discussion on the operator's role in controlling production processes.
- Focus on operations safety and handling emergency situations.
- Overview of general control room activities.

9. Blending Methods & Operations

- Understanding the production of distillates and finished products through blending.
- Exploration of batch blending and in-line blending techniques.
- Identification of typical gasoline blend components.
- Overview of asphalt blending and residual fuel blending.