Introduction to Petroleum Refining Processing

Potential PDH: 16

Description:

Upon completing this course, participants will be able to apply fundamental refining concepts. They will:

- Understand the relevance of refining, including typical refinery inputs and products
- Describe the contents of a crude assay and how it impacts product quality and quantity
- Understand the purpose of product specifications and how they are met through blending and pooling
- Explain the Refinery Planning Cycle
- Describe the key objectives and importance of each unit operation and technology

Outline:

Introduction to Petroleum RefiningHow does a refinery fit into our overall business?

Our business is:

- Finding crude and gas
- Transporting crude to the refinery
- Converting crude into valuable products (REFINING!)
- Moving and marketing the products

This module will introduce you to:

- How a Refinery converts crude (and other feedstocks) into products
- What goes into the Refinery (crude and other feedstocks)
- What comes out of the Refinery (products)

Reminder of Potential Refinery Hazards

The Refining Process

- Understanding Crude
- Refinery Products and Specifications

Types of Refineries

- The Four Basic Refining Processes
- Typical Refining Units
- Balancing the Refinery

- Product Realization of Refinery Types

Overview of Key Refinery Processes

- Amine Treating
- Sulphur Recovery
- Crude Oil Distillation
- Hydrotreating
- Hydrocracking
- Isomerization
- Catalytic Reforming
- Fluid Catalytic Cracking
- Alkylation
- Heavy Oil Processes

Who Should Attend:

The program has been designed for personnel recently assigned to positions in the petroleum refining industry or for operations personnel with substantial hands-on experience. It is assumed that those in attendance have backgrounds in engineering and chemistry or have actual refinery operating experience. Interested parties who do not have technical or refinery backgrounds should consider attending our alternate program, "Basics of Petroleum Refining for Non-Technical Personnel."

Subject Matter Expert (SME):

Michael (Mike) Bober holds a BS in Chemical Engineering from the New Jersey Institute of Technology. He served as a Process Engineer, Project Developer, Economist, and Manager at Exxon's Bayway Refinery for twelve years. He then joined Mobil Research and Development as an FCC Specialist. He managed technical training for Engineering, worldwide, until Exxon and Mobil merged in 2000. At this point, he managed worldwide technical training for ExxonMobil Research and Engineering and then retired from managing the Technical Portfolio for ExxonMobil's Global Manufacturing Training initiative – with a combined service of 37 years to the two companies.