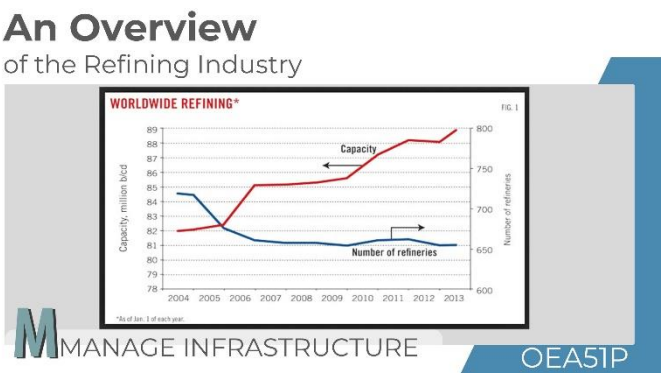

Topic ID	**OEA51T**
Title	**An Overview of the Refining Industry**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

Integrating different systems in a refinery is essential to the performance improvement of various operations and processes. Integration includes introducing automated technologies, modern data acquisition systems, and computer programming techniques concerning online and offline blending procedures.

This topic will discuss the integration of offsite automation, blend control and optimization integration, OM&S systems, modular integration, etc.

Integrated System of Blend Optimization

There are different levels of blending automation. Various steps are applied to control the components of each system, and they are linked with each other. For example, the regulatory blend control system controls the flow rates and mixing ratios.

The advanced blend control system is used for blend management and planning by utilizing feedback analyzers. The offline system of blend optimization is arranged and integrated to achieve accuracy in blending operations and the correct fuel properties for each component. The integrated system has many sub-components. They include tank information, tank quality parameter data, online blend data, and the information received from diagnosis and performance analyzers. The optimization system and the control system work efficiently for the automated management of blend components, flow rates, mixing ratios, and diagnostic analyzers. Inputs are given via the feedback system to assure the accuracy of processes.

Integrated Oil Movement and Storage System

Oil movement and storage concerns the movement of oil within and outside the refinery premises in groups. The integrated oil movement and storage system (OM & S) is linked with the blending control system. There is a continuous flow of information and data related to the tanks, operations, and monitoring parameters to help update the refinery's database. There are different levels of database access to this refinery database. The relevant data is accessible to the plant managers, processing staff, supervisors, laboratory, and schedule setters. This is how effective control is obtained on the amount of fuel in motion and the quantity stored. The real-time information can be used to evaluate the financial parameters along with technical data simultaneously.

Summary

The profit of refineries is dependent on the blending process. Therefore, offsite control management, product quality evaluations, and minimizing the inventory cost are important from a financial point of view. Modular integration of various offsite operations is required, such as crude oil storage, processing of inputs for units/blenders, mid-product reserving, tank fuel blending, product storage, and transfer of components to different tanks.

Options for eLearning This Topic

Mode of eLearning	Available?
Free Course	No
Refresher Course	Yes
Pick N Choose (Custom Curriculum)	Yes
Advanced Level Course	Yes
Structured MCOR Curriculum	Yes

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