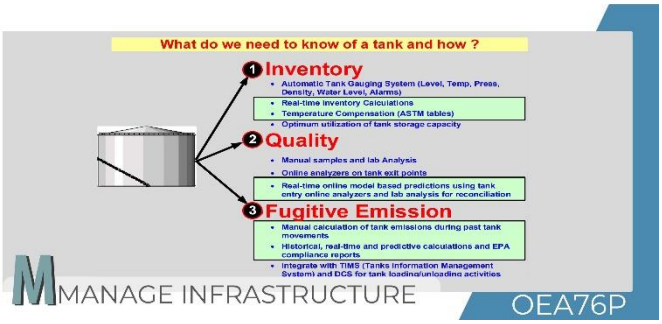
Tank Farm Management



Topic ID	**OEA76T**
Title	**Tank Farm Management**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

Tank management includes single-tank management and tank farm management. For single-tank management, one must know the attributes of the tank, its quality, the quantity of the oil, and its impact on the entire tank farm. Different operations are involved in tank farms management.

This topic will discuss the need for storage, stages of storage, products, and tank types, distribution of tanks & their capacities, management of a single tank vs. a tank farm, steps to determine tank inventory, methods to analyze/estimate tank qualities, online analyzers for rundown & in-line blenders, lab analysis of load distribution, the model-based tank qualities analysis system, feedforward tank qualities for process units, fugitive emissions from storage tanks, refinery onsite vs. offsite operations, etc.

Tank Farm Management

Chemical storage is an important component of a refinery. It consists of both crude oil storage and finished product storage.

The storage system includes the receipt, crude oil storage, processing, intermediate storage, final product, and product dispatch.

Different refinery products require a different types of storage tanks. For crude oil, gasoline, and naphtha, the floating roof type of tank is used. The fixed roof tank is used for diesel, kerosene, FCC feed stock, and residual fuel oil.

For normal butane, propane, and propylene, the spherical tank is used. For isobutene and butane, the bullet tank is used. Major storage is used for crude oil, which stays for approximately 20-30 days. The average storage capacity of major storage is 50-100 Kb/d.

In single-tank management, a refiner must know about the inventory, quality, and fugitive emissions. Inventory can be measured by the gauging system, density, and pressure. Quality can be measured manually in a laboratory and by using online analysis as well as model-based analysis. Fugitive emissions are important because they affect the inventory during the oil movement. Fugitive losses may be segmented as standing losses, working losses, and total losses. Various steps to determine the tank inventory levels are receipt, tank characteristics, the algorithm of the temperature, and dispatch.

Modeling, planning, optimization, scheduling, execution, and reconciliation are the steps for tank farm management operations. There are two major refinery operations, onsite operations and offsite operations. Components of offsite operations are terminal operations, material movement, finished product blending, crude oil blending, and feed/product manufacturing. Challenges concerning oil movement economics consist of decreased profitability, operating problems, product losses, and operational cost.

Summary

There may be a single tank in tank management, or there may be a tank farm consisting of many tanks. Fugitive losses are of much importance due to their effect on inventory. They are of three types, i.e., standing, working, and total losses. Blending is also discussed.

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