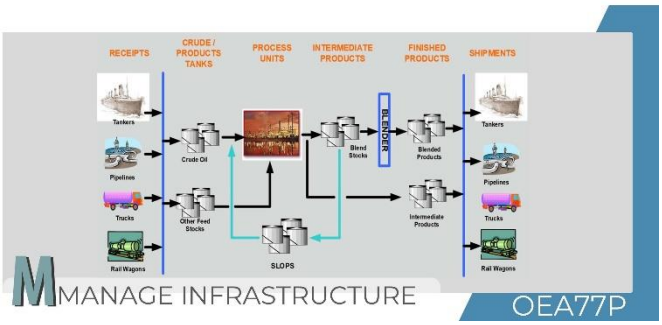
Tank Farm Fundamentals



Topic ID	**OEA77T**
Title	**Tank Farm Fundamentals**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

There are many stages of storage concerning crude oil as well as blended and intermediate products. Therefore, there are also many factors affecting storage capacity.

These include the crude oil reception method, export method, extent of refinery complexity, etc. There are different methods for estimating storage capacity. Comparing these methods helps a refiner to choose the best one. Tanks may be cylindrical, spherical, or bullet type. They may have internal or external floating roofs.

This topic will discuss refinery products, daily refinery throughputs, storage stages, factors affecting tank farm storage capacity, methods to estimate tank farm storage requirements, comparison of estimation methods, refinery tank farm storage patterns, safety issues, etc.

Need of Storage

Crude oil is converted into finished products by cracking or by the fractional distillation process. These products include petrol, gasoline, diesel, lubricants, kerosene, wax, etc. Throughputs are the products available to the consumer.

They are provided by the seller after the useful conversion of crude oil to blended products. The need for storage depends on cost, seasonal demand, dispatch, receipts, products, and feedstocks.

Tank Storage

The storage of tanks includes multiple stages. These stages are input or receipt (through pipelines, trucks, railways, or ships), crude oil tanks on-site, process unit storage, intermediate and blended products storage, and shipment of products (via pipelines, trucks, railways, or ships).

Factors Affecting Storage Capacity

Factors affecting storage capacity are methods of receipt and shipment, the complexity of a refinery, variation in seasonal demand, plant shutdown, block operation using multiple feedstocks, blending mode, timely manufacturing, usage, and availability of tanks in an emergency, etc. Estimating storage requirements uses a mathematical model concerning refinery complexity and the crude oil receiving process, rationalizing the blending approach and software simulation. A typical tank farm storage pattern shows demand for each product, number of tanks required, tank capacity, total tank capacity bls, product factor, daily production, and number of days required for storage.

Safety Issues

Some safety issues concerning tank operations are leakage from the pipeline, valve stem, flange gaskets, leakage while taking a sample, leakage from transport.

Additionally, issues are failure of the pipes, tanks, or valves due to accidents; corrosion; unpredicted forces; formation of an explosive mixture in tanks; sparks from trucks, electric cables etc.

Summary

This topic discussed various types of tanks configuration and their usage in a refinery.

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