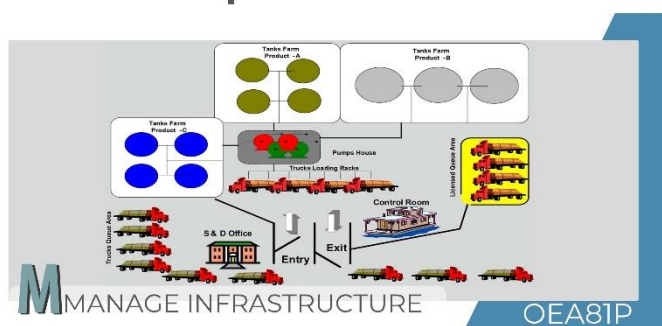




## Terminal Operations



Topic ID OEA81T  
Title Terminal Operations  
Category M-Manage Infrastructure  
eLearning Basic  
Level

### Introduction

There are four types of terminals for receipt of crude oil. They include transfer through pipelines, trucks, railway tankers, and ship tankers.

Custody transfer is the reconciliation and transfer of documents between the company and buyers. Different specifications are there for different terminals, i.e., marine, truck, and pipeline.

**This topic will discuss the supply chain, custody transfer challenges, specific challenges of marine terminals, refinery feeds receipt and product shipment, truck terminals and their challenges,**

**Additionally, the topics also discuss product shipment via trucks, truck terminal plot diagrams, truck loading control, truck terminal configuration, control system architecture, specific challenges of pipeline terminals, challenge severity matrix of terminal operations, etc.**

### Terminal Operations in a Refinery

The supply chain is a network between a refinery and its suppliers. It helps to produce and distribute chemical products to the final consumers.

Refinery feed receipts refer to crude oil at intake terminals. Product shipments include final product shipment to the consumer. The total amount released from an account should be equal to the actual amount spent for custody transfer. The custody transfer delay can damage the bottom line. It may incur a significant financial loss.

Accurate measurement of the water content in crude saves money. Delay of reconciliation may cause differences between refinery and consumer.

Specific challenges of a marine terminal include planning and scheduling, flow measurement accuracy, demurrage charges, water content

analysis, crude oil sampling point locations, and adequate pipeline mixing.

Truck terminal challenges include scheduling 100-150 trucks/day, manual gauging of tank compartments, contamination due to human error, efficient handling of truck queues, etc.

Chemicals are shipped to petrol stations and supply depots via trucks. A truck plot diagram includes S & D room, entry, truck loading, pumping area, control room, and exit point.

Truck loading control consists of oil tanks from the refinery, control valves, pumps, and delivery pipes.

Pipeline terminal challenges include long-distance shipment; requirement of accurate equipment such as pumps, flowmeters, and pressure meters; disruption of operations due to oil leakage; product contamination due to large distance; requirement of advanced control systems and sophisticated remote control systems; etc.

The challenge severity matrix helps a refiner understand that shipment via trucks has many benefits compared to other methods. Benefits include low demurrage charges & low product contamination.

### Summary

The terminals layout, control room, and equipment used for crude oil transfer are vital for the supply chain.

### 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