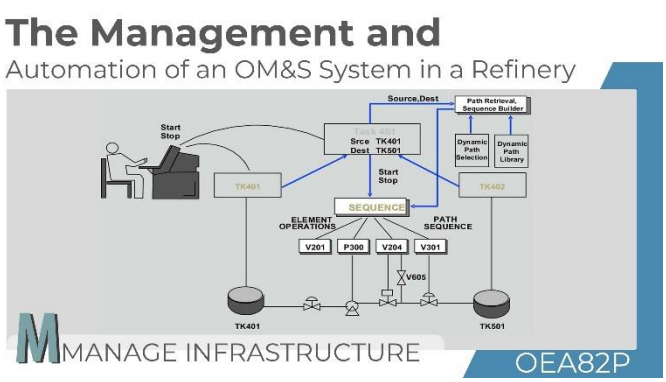

Topic ID	**OEA82T**
Title	**The Management and Automation of OM&S in a Refinery**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

The most time-consuming and arduous activity in a refinery is the movement of feeds and products within and out of a refinery. It is estimated that there are roughly 200 movements per day coming from hundreds of pumps, switches, and valves. Nevertheless, a large number of modern refineries have automated these operations via complex software.

This topic will discuss the extent of OM&S activities in a refinery, the status of OM&S automation, the effect of refiner capacity on no. of movements, typical OM&S activities, problem areas of in-plant oil movement, computer automation of OM&S, OM&S modules, dynamic path selection, object-oriented oil movement display, monitor OM&S tasks, integrated OM&S control systems, OM&S system architecture, the benefits of OM&S systems, etc.

Oil Movement & Storage (OM&S)

Crude oil is transported from oil fields to refineries and storage areas by various methods, such as tankers, pipelines, trucks, and rail wagons. Once the refining process is completed, the oil is transported to storage tanks by transportation methods. The storage tanks are also used to preserve crude oil, intermediate stocks, and feedstock. Storage tank configuration is determined by considering the quantity and the type of products stored and regulatory requirements.

Typical OM&S Activities

Typical OM&S activities include receipts of feed and other intermediate products/feeds; receiving unit feeds from tankage; rundown (off-the unit), batch, parallel and serial blending; shipments and custody transfers; unit rundowns; and water drainage.

Problem Areas of In-Plant Oil Movement

In-plant oil movement is not a straightforward process; in fact, it comes with many challenges. The most typical types of those problems are associated with a decline in plant profitability, operational problems, leakage of products during operation, and ineffective use of resources.

Two kinds of equipment that help in cost-effective corrosion control are pipeline corrosion inhibitors and aviation fuel corrosion inhibitors.

Path Selection

Path selection relies on a combination of destinations and sources, which are outlined in the movement order. Path selection involves specification of path selection criteria, preference of paths (either dynamically or from a library of predefined paths), examining suggested paths and committing all the necessary elements to the chosen path.

Summary

Oil management and automation control systems have many advantages. For example, enhanced quality and safety of facilities operation, monitoring, and control of power resources minimized downtime and losses, enhanced environmental conditions on-site, prompt response, etc.

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