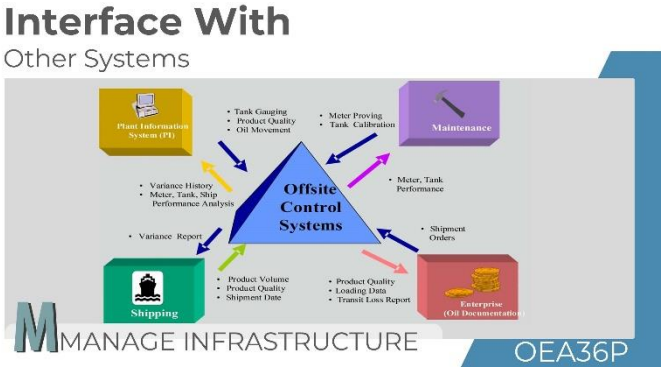


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|---|---|
| **Topic ID** | **OEA36T** |
| **Title** | **Interface With Other Systems** |
| **Category** | **M-Manage Infrastructure** |
| **eLearning Level** | **Basic** |

## Introduction

This course will learn how a petroleum refinery interacts with other systems such as instrumentation technology and information technology. The interaction of a petroleum refinery, instrumentation technology, and information technology happens through an interface system. For example, a refiner could own and develop the process and system interface or use a system developed and owned by other providers, known as vendor companies. They usually offer full service or customer service. The processes and systems from a refining unit will connect to instrumentation and information technology such as a plant process database (PI, PHD), ODBC interfaces (LIMS, ATG), and excel drives (PIMS) through interfaces.

**This topic will discuss process and systems interfaces, offline blend optimizer interfaces, tank quality tracking system interfaces, online blend control interfaces, offline/online blender interfaces, oil movement interfaces, etc.**

## Interface Applications

Interfaces have a wide range of applications.

Offline blend optimizer interfaces require feed data from the refinery's LIMS/ATG/process database to its tank systems through an ODBC interface. Then the offline blend optimization and planning system uses that data. However, it may require direct manual data entry.

Tank quality tracking system interfaces are somewhat similar to offline blend optimizer interfaces. But this system does not have the provision of manual entry. Instead, it uses the refinery's LIMS database and online analysis of tanks' inlet/ outlet streams to feed to the tank quality tracking system database. This is done to improve blend tank qualities and process stream qualities.

Online blend control strategies are also somewhat similar to tank quality tracking systems and offline blend optimizer interfaces. However, all systems require exchanging information between the refinery process database (stream flow rates and setpoints) and offline blend optimizer (initial recipe, constraints, and plan details). Also, this system works with an offline blend optimization and planning system to create offline/online blender interfaces.

The oil movement in these systems is very complex. It involves different systems such as an information system, maintenance system, enterprise (oil documentation) system, and shipping system.

## Summary

This topic explains the interface of a refinery with its systems, especially information technology (IT) and instrumentation technology, i.e., sensor technology, which will remove unnecessary manual data entry, automate repetitive tasks, and improve the flow of information in real-time.

Besides, it explains the application of interfaces and gives examples of their uses in refinery operations.

## 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 |