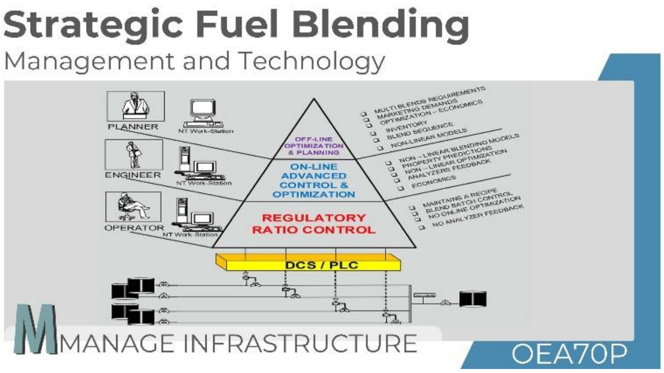
OMS eLearning Academy
For Refinery Offsite Operations Professionals



Topic ID	**OEA70T**
Title	**Strategic Fuel Blending Management and Technology**
Category	**M-Manage Infrastructure**
eLearning Level	**Basic**

Introduction

Modern automotive fuel could have come from as many as 15 different sources of hydrocarbons, each affecting the final specification and overall cost. In addition, products can be mixed by various processes, such as inline through a multiple control system, batch mixing in tanks, and onboard mixing in marine vessels.

Several factors are affecting successful blends. From the tank conditions to stock conditions, checks are put in place to ensure the best results are achieved from blending.

This topic will discuss challenges and factors affecting successful blends, modes of blending, blending control and optimization, mathematics of blending, blending system modules, types of blending configuration,

Additionally, the topic also discusses the rundown inline open-loop diesel blender, the rundown inline open-loop kerosene blender, the rundown inline open and closed-loop gasoline blender, the inline closed-loop gasoline blending system, advanced blend control & optimization system levels, etc.

Complex Blends of Refinery Products

Optimization assembles models to describe operations and their constraints. Optimized models are data-driven. Since gasoline provides about 60-70 percent of a refinery's income, gasoline blending is vital in refinery operations.

Hence, an appropriate blending method is important for obtaining gasoline correctly and ensuring that property requirements are met. Blend components vary widely with key qualities such as RVP and octane rating. It costs as much as one million dollars to conduct blending in a refinery producing 100kb/d.

Hence, a refiner must find the most inexpensive way to conduct a blending operation efficiently.

A barrel comprises 42 gallons, with a little above 44% being finished motor gasoline and 21.84% distillate fuel oil. In the context of a refinery linear model, a processing unit is called a sub-model. Economics and processes are used to describe various sub-models.

An LP matrix is completed by joining many sub-models. For this purpose, GAMMA (a matrix generator) is used. Finally, a complete refinery mathematical model presents a correlation among various variables.

For example, blending constraint, refinery streams, etc. Using the LP framework, a refinery environment may be visualized. Then optimization may be conducted to minimize expenditure or maximize revenue generation. Some refinery variables are nonlinear. They influence gasoline blending.

Summary

Final blend performance must be reviewed regularly to ensure the success of blending operations. Real-time information should be available to the operator. All recipes must be optimized to maximize the use of components. Choosing an appropriate model will help to fine-tune refinery variables. Finally, all components should be integrated.

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