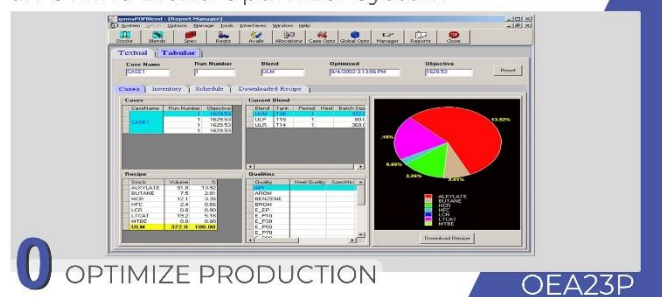




Demonstration of an Offline Blend Optimizer System



Topic ID OEA23T
Title Demonstration of an Offline Blend Optimizer System
Category O-Optimize Production
eLearning Level Basic

Introduction

Blending in a refinery is essential to minimize cost and maximize profit while producing products within the required specifications and demands.

All the available components are utilized to produce specified products. Advancement in blending techniques has made it possible to create products with specific octane numbers, vapor pressure, or viscosity while utilizing the components available to satisfy the specifications and environmental regulations.

There are two types of advanced blending optimization systems: offline blending optimizers and online blending optimizers. Both have unique applications and benefits.

This topic will discuss the specifications of offline blend optimizers, a comparison concerning the benefits of both systems (offline/online), and the phased implementation strategy of blend optimizers.

Features of an Offline Blend Optimizer System

An offline blend optimizer makes it possible to plan a production schedule for months to predict the production rate. Offline blend optimizers help in the inventory management of the products. They can also predetermine the quality and value of the products.

The offline blending optimizer is beneficial because it generates a single recipe for gasoline, diesel, and fuel oil compared to online systems where the recipe changes from tank to tank.

The offline blend optimizer's data entry system controls the product specifications and requirements with the help of stock tank qualities, blend tank qualities and limitations, giveaway range control, period calculations, stock allocations, and recipe initiations.

The optimization report manager ensures the smooth running of the production procedures. Blend tank qualities are predetermined, and the process is scheduled with the recipe management. Microsoft Excel sheets are used for data entry systems in the offline blend optimizer.

An online blend optimizer is beneficial if a product must be supplied within the refiner's specified constraints. Here, online optimization is necessary. In addition, the online blending optimizer minimizes the risk of re-blends due to violated specifications.

Product quality is adjusted within the defined constraints while keeping the refinery's profit margins high. An offline blend optimizer is comparatively cheaper, however. Single-blend offline optimization is the least costly method after summing up component cost.

Software Solutions for Offline Blend Optimization

Various software packages are available commercially for offline and online blend optimization. Process units benefit from these optimization software solutions, which are available for primary/secondary process units. Due to these solutions, there is a significant reduction of the quality giveaway and off-spec fuel blends.

Summary

An offline blend optimizer does not require large investments in infrastructure. The payback period is less than 1-2 months, even if the refinery is semi-automated.

Mode of eLearning	Available?
Free Course	No
Refresher Course	No
Pick N Choose (Custom Curriculum)	Yes
Advanced Level Course	Yes
Structured MCOR Curriculum	Yes