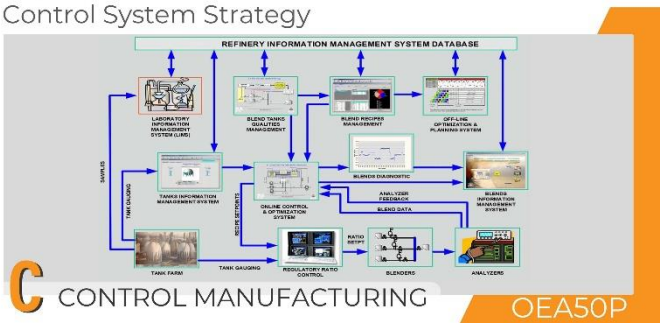
Optimum Blend
Control System Strategy



Topic ID	**OEA50T**
Title	**Optimum Blend Control System Strategy**
Category	**C-Control Manufacturing**
eLearning Level	**Basic**

Introduction

Component properties concerning blend component tanks may be obtained from laboratory analysis. Component circuits pool components with the same properties to improve blend recipe optimization. Fluid petrochemicals are put away in a tank farm before being sent to the end buyer. A tank farm is also called an oil depot, establishment, or oil terminal in the petroleum business.

Tank farms create or take care of corrosives of differing focuses and characteristics. In addition, tank farms might be affected by erosion and fire, so appropriate consumption and fire safety practice are essential.

This topic will discuss tank farms and component circuits; tank gauging systems; field equipment pumps; valves; controllers; meters; online analyzers; computer system hardware and software; data reconciliation, interfaces, and integration; support and training; typical blending systems; identification of sources of error;; etc.

Typical Blending System

The blending system is an important refining process. This process works as per market/customer specifications and according to environmental regulations. Most refined products are blended into intermediate product streams for the right conversion to go into the market. Then, intermediate streams are blended into different final products. For example, naphtha can be blended into jet fuel streams.

Tank Gauging System

Tank gauging involves fluid estimation in capacity tanks to decide product volume. There are various types of tank gauging level measurement systems. For example, inductively coupled/ wire-guided/float operated/servo-operated float gauges, surface detectors, radar tank gauges, etc. Most switches on tank gauges (used for gasoline storage) are magnetic reed for alarm initiation and level detection. There are different types of level switches. For example, magnetic reed/optical/mechanical switch, displacer, and vibration switch.

Online Analyzers

Online analyzers use near-infrared spectroscopy (NIRS) technology, which gives fast and precise monitoring of the main parameters in refining and fuel mixing. This reduces the time needed by a simple analyzer. NIRS also costs less than a lab analysis.

Field Equipment

Valves are used to control flow rates, give protection, and isolate the equipment. They also help to manage the refining process of crude.

Summary

An appropriate strategy is needed to automate various components of a blending system; different modules/systems have to be integrated. Proper training should be provided to the analyzer engineer, DCS control engineer, refinery planner, blend control engineer, etc. Strategies concerning model-based quality tracking systems should also be implemented.

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