OMS eLearning Academy
For Refinery Offsite Operations Professionals

Topic ID	**OEA147T**
Title	**Gasoline and Diesel online blending analyzers**
Category	**C-Control Manufacturing**
eLearning Level	**Basic**

Introduction

This topic discusses the online process analyzers used for Diesel, and Gasoline Blending control systems and further discusses the need for process analysis control and measuring methods available for online control.

Types of Analyzers

Analyzers fall into two categories, namely discrete analyzers and correlative analyzers. Discrete analyzers measure only one quality, whereas the correlative analyzers can measure many qualities simultaneously using the spectroscopic spectrum. NIR, NMR, and FTIR are a few examples of correlative analyzers. However, there are other technologies also used for correlative analyzers.

Discrete versus Coorelative Analyzers

- Discrete analyzers do not depend on feedstock quality and other external factors.
- Discrete analyzers correlate with the laboratory using the same measuring method. However, their response time is usually longer, and maintenance is much more expensive.
- Discrete analyzers require much more maintenance; mechanical parts, tubes, filters, and reagents must be constantly replaced.
- The measurement of each fuel quality requires a separate and dedicated discrete analyzer.
- The availability of discrete analyzers is about 80%, which means that 20% of the time, they are under maintenance compared to the correlative analyzer with 3% only.
- On the other hand, correlative online analysis methods are faster and less expensive and include spectrophotometry (NIR, FTIR) and magnetic resonance techniques (NMR).
- A significant advantage of correlative NIR analyzers is that there is no need for the analyzer will be physically close to the process.
- The ability to install the correlative analyzer up to two miles from the measuring cell and use multiplexing capabilities to measure up to eight different processes in parallel makes it possible to use the same analyzer for completely different processes located far away from each other

Summary

The correlative analyzers are cost-effective, faster, and analyze multiple qualities compared to the discrete analyzers.

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

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