AUTOMATION OF REFINERY OFFSITE OPERATIONS

(In collaboration with *Offsite Management Systems LLC*)

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OBJECTIVES

To improve the attendees' knowledge and understanding of the principles of operation and decision making involved in the management of refinery offsite operations, such as:

- crude/products blending control and optimization
- tanks farm management
- terminal and custody transfer
- oil movement, …

Participants attending the program will:

- understand the functional divisions into onsite/offsite operations of the refinery processing operations
- understand issues of custody transfer and terminal operations
- review all elements of tank farm management from sizing storage requirements, control, instruments, safety, environment, oil movement and scheduling
- develop an understanding of refinery blending operations of crude and products
- develop an overview understanding of an offsite automation project planning, its economic analysis and implementation strategy

COURSE CONTENT

OVERVIEW OF OFFSITE OPERATIONS — 0.5 day

Overview of refining processes
Distinction and economics of offsite operations
Custody transfer problems and challenges
Terminals operations (marine, pipeline and trucks)

TANK FARM MANAGEMENT — 1.5 days

Tank farm fundamentals
Automatic Tank Gauging (ATG) system
Tanks inventory information management
Tank quality analysis and prediction
Fugitive tank emission measurement and control
Oil movement and control
Planning and scheduling

BLENDING SYSTEMS AND OPERATIONS — 1 day

Blending operations
Crude blending
Products (gasoline, Diesel, fuel, lube) blending
Blending modes and configurations
Field equipment and instrumentation
Analysers and sampling system
Regulatory blend control
Blend trim control

ADVANCED BLEND CONTROL AND OPTIMIZATION SYSTEMS — 1 day

Advanced blend control strategy
Blend models
Blend optimization
Refinery wide planning
Offline Blend optimiser
Online blend control and optimization
Data reconciliation and feedback
Interfaces with other systems
System architecture
Over-all integration

PLANNING, JUSTIFYING, IMPLEMENTING AND REALIZATION — 0.5 day

Project identifications
Data gathering and analysis
Economical justifications
Where and how to start ?
Required enterprise changes
Project implementation phases and strategy
How to realize and sustain benefits ?
Putting it all together - Myths and facts

SIMULATED DEMONSTRATION OF OPTIMIZATION AND AUTOMATION SYSTEMS — 0.5 day

Introduction and examples of linear programming
Crude blending simulation and LP
Offline blend optimization of fuel products
Online tanks quality tracking system
Online blend control and optimization

In addition to formal lectures, the delegates will learn by active participation through the use of group discussions, analysis of real-life case studies and, when possible, simulated demonstration of automation systems.
Lecturer from Offsite Management systems LLC.

▲ Who should attend?

Technical and key operating staff working in refining as well as oil and gas industry Company managers who have an interest in increasing their understanding of all aspects of offsite operations

▲ Duration

5 days

▲ Dates & Location

Non-scheduled

May only be organized for a single company

▲ Tuition Fees

To be agreed upon

▲ Course Coordinator

Serge Lecler

Ref. **APD / AUTOOFF**