AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

HYDROGEN

"Hydrogen Generation and Production Trends"
Kevin Proops, Solomon Associates
AM-14-54
Hydrogen demand in U.S. and Canadian refineries increased 23% from 2002-2012. This paper shares insights from Solomon Associates' fuel and lubes studies, including the most recent 2012 data, examining factors driving hydrogen use, generation mix and effiency. We will also discuss best demonstrated performance in key operating parameters.

"Strategic Options in Hydrogen Plant Design to Improve Refinery Margins"
Sanjiv Ratan, Technip Stone & Webster
AM-14-55
In modern deep conversion refining with constrained demand refineries are facing the challenge to improve margins while optimizing clean fuels state. One of the focus areas is to look into variations on value-added options to lower the cost of hydrogen. Proven solutions for lowering the unit cost of hydrogen will be presented.

"Carbon Dioxide Emissions from Hydrogen Plants: Understanding the Options"
Goutam Shahani, Linde Engineering North America; Christine Kandziora, Linde Gas Headquarters
AM-14-56
This paper will provide a technical and economic overview of carbon dioxide (CO2) capture from steam methane reformers (SMR). CO2 can be removed from the process gas stream either before or after the pressure swing adsorption step. lt is also possible to recover CO2 from the furnace flue gases. Various economic alternatives will be assessed and considerations for process selection will be discussed.

"Catalysts to Optimize Hydrogen Production in the Refinery"
Ross Brunson, Clariant
AM-14-57
This presentation will discuss the increasing hydrogen requirements in today's refineries, how to improve the performance of existing hydrogen production plants, and options for increasing capacity of existing hydrogen production facilities or adding new hydrogen plants utilizing catalytic solutions.

AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

ALTERNATE FUELS

"Monetizing NGLs to Diesel – An Attractive Path?"
Jeff Bray, and Ron Subris, UOP, LLC
AM-14-58

"Natural Gas in Transporation: The Impact on Oil Demand in the U.S. and Beyond"
Alan Gelder, Wood Mackenzie
AM-14-59
Oil demand in the transportation sector is key to global oil demand due to increased inter-fuel competition in other sectors. Could natural gas penetration into vehicle fleet cause global oil demand to decline within the next decade? This paper considers economics of natural gas vehicles, their market penetration and the outlook for passenger vehicles and freight transportation to impact oil demand.

"Fuel Quality of Biomass-Derived Drop-In Fuels "
Celeste McLeod, CRI Catalyst Company
AM-14-60

"Realization of Advanced Biofuels: Growing the Supply of Renewable Diesel Fuel"
James Andersen, Tony Barnette, and Bill Malatak, UOP LLC
AM-14-61

AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

FCC OPERATIONS

"How to Make Anything in an FCCU'
Warren Letzsch, Technip Stone and Webster; Chris Dean, High Olefins FCC Technology Services LLC
AM-14-62
This paper will discuss how to maximize the yields of specific components from the catalytic cracker. Some of the yields discussed include gasoline, diesel, propylene, light olefins, and aromatics.

"Commercial Experience of Operating FCC Unit with Low Catalyst-to-Feed Ratio and Reduced REO Content in the Catalyst"
Mikhail Levinbuk, A.V. Topchiev Institute of Petrochemical Synthesis; Ilya Maksimov, Moscow Refinery
AM-14-63
Enhancement of the FCC unit capacity led to the development of catalysts with reduced REO content and increased quality and quantity of zeolite component for the purpose of maintaining constant basic product yield at decreased catalyst-to-feed ratio without reconstruction of the unit equipment.

"Sink or Swim? How to Thrive in the Flood of Tight Oils"
Raul Arriaga and Ken Bruno, Albemarle Corp.
AM-14-64
The paper focuses on how companies can modify their refinery configuration and their new FCCU operating conditions to make the most out of tight oils-derived FCC feeds. Laboratory data and commercial case studies will be presented along with computer simulations demonstrating different approaches towards FCCU debottlenecking and profit maximization when processing these types of feeds.

"Best Practices for SOx Emissions Control Utilizing Additives"
Ray Fletcher, Johnson Matthey
AM-14-65
This paper represents a crystallization of the best practices for additives SOx emissions control accumulated through 20+ years of industrial expereince.

AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

RISK MITIGATION

"Dynamic Risk Prediction for Safer and More Reliable Processes"
Deborah Grubbe, Ankur Pariyani, and Ulku Oktem, Near-Miss Management LLC
AM-14-70
Predicting more risky operations begins with advanced analyses of system data and signals. Plant management, maintenance managers, and operations leaders will benefit the most from these concepts.

"Process Safety Management: Going Beyond Functional Safety"
Peter Martin and Martin Turk, Invensys
AM-14-66
While functional safety has been successful in reducing the probability of catastrophic events and recognizes the role of human factors, it does not explicity address the roles of management and business processes in maintaining operational integrity and profitable performance of process plants. We will discuss the pivotal concepts of safety performance indicators and values (plant assets, the environment, the public, and employers) at risk from potential catastrophic events.

"The Strategic Approach to Operational Excellence In Highly Hazardous Operations"
Jack Pankoff, Production Excellence, Inc.
AM-14-68
This paper presents a strategic and systematic approach to achieving and sustaining operational excellence in highly hazardous operations. The approach presented is based on a defined conduct of operations and operational disciplines to mitigate and manage risks and improve operational performance. It utilizes a zero harm philosophy and lean enterprise dynamics to provide a means for continuous improvement.

"Safer Operations: Overpressure Protection in Flare Systems using Pressure Safety Valve Sizing"
Ron Beck, AspenTech
AM-14-69

AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

RELIABILITY

"Using Your Big Data to Improve Operations and Asset Reliability Management"
Roy Whitt, Meridium, Inc.
AM-14-67
Leading global manufacturers have found that a systematic approach to managing and effectively using the massive amounts of equipment data being generated has improved their competitive position and profitability. This involves gathering the right data about their equipment, scrubbing it, organizing it, performing some basic high-value analytics, generating results as meaningful information with context, and acting on recommendations in a disciplined way. This process provides an effective way to harness big data and use it for actionable insights that lead to better operations, reliability and alignment with organizational targets.

"The Path to World Class Reliability Performance"
James Feeney, Solomon Associates; Ernest Rose, BASF Corporation
AM-14-71
In this session we will present refinery and chemical plant reliability and maintenance (RAM) performance benchmarking. The business case supporting RAM benchmarking against top performers is not only compelling, but essentially a prerequisite to becoming a world class competitor. The maximum value of this effort is gained through continued long term performance improvement focus by the owner/operator. This presentation will explain how the Solomon Associates RAM benchmarking process has shaped and supported BASF's reliability performance.

"The Missing Measurements – Essential for Improving Process Availability"
Gary Hawkins, Emerson Process Management
AM-14-72
In this workshop we will discuss advances in process automation, including wireless transmission and new sensor technology, as enablers of improvements to the on-stream availability of process units. We will explore what is meant by the "missing measurements": What are they? Why are they missing from the original process designs? What value does **pervasive sensing** bring to operations?

AFPM
American
Fuel & Petrochemical
Manufacturers

2014 Annual Meeting
March 23-25 ~ Hyatt Regency Orlando~ Orlando, FL

Program Descriptions

"Use of Crude Unit Overhead Monitoring Automation Improves Reliability in Processing Conventional and Non-Conventional Crude Oils"
Sam Lordo, NALCO Champion
AM-14-73

Changing crude slates at the crude unit now requires more diligent and frequent monitoring to ensure reliability is maintained. NALCO Champion has developed a crude unit overhead analyzer that measures pH continuously with chloride and iron being measured hourly. These parameters then can be used to control caustic, neutralizer and filming amine that are used in many crude unit overhead operations. This paper will present some of the findings we have made and examples of how the technology has been used to improve crude unit operability and minimize upset conditions.