INTRODUCTION

For over 30 years Refining Process Services has been the leader in providing specialized technical training programs for the worldwide petroleum refining industry. Following is detailed information on the next presentation of our “Hydrotreating & Hydrocracking Process Technology” seminar program, which has been very well-received by the worldwide petroleum refining industry in many past offerings.

PROGRAM

This program has been developed by Refining Process Services to provide an in-depth, yet practical review of both hydrotreating and hydrocracking technologies for the refining of petroleum. The speaker will cover topics ranging from the chemistry of hydrotreating and hydrocracking to a discussion of the design of commercial processes and reactors. The program will also address FCC feed pretreatment, diesel and jet fuel production, naphtha hydrotreating, and hydrogen production and purification.

The program instructor will be Dr. Stephen McGovern of PetroTech Consultants. Steve has a wealth of knowledge and experience covering all areas of hydrotreating and hydrocracking. Seminar participants will have an opportunity to obtain a broad working knowledge of petroleum hydrotreating and hydrocracking from a distinguished industry expert. In addition, participants will be able to stay abreast of the developments in hydroprocessing technology, to interact with others working in this area of refining, and to have their questions answered in the open forum sessions.

This program is ideal for personnel involved in refinery process engineering, unit operations, catalyst research and development, catalyst sales, and refinery technical service. Process engineers from design and construction companies as well as those who provide products and services to the petroleum refining industry should also find the program very useful and informative.

PROGRAM OUTLINE

DAY 1
1. INTRODUCTION
   - Review of Refining Trends
   - Product Specifications and Environmental Concerns
   - Overview of Hydrotreating Processes, Yields and Configurations

2. CHEMISTRY AND PRINCIPLES OF HYDROPROCESSING
   - Hydrotreating Reactions and Process Principles
   - Chemistry of Nitrogen and Oxygen Removal
   - Chemistry of Carbon Removal
   - Hydrocracking Catalysts
   - Olefin and Aromatics Saturation
   - Coke Formation and Catalyst Deactivation
   - Mild Hydrocracking
   - Resid Chemistry

3. NAPHTHA PRETREATING
   - Process Variables and Feedstock Effects
   - Commercial Flow Schemes
   - Effects on Refinery Operation

4. FEED AND OPERATING VARIABLE EFFECTS
   - Feed Properties
   - Operating Variable Effects
   - HDS as FCC Pretreatment
   - Hydrocracking Requirements and Process Economics

5. DIESEL AND JET FUEL PRODUCTION
   - Trends in Demand/Quality
   - Effect of Feedstock on Yields/Quality

6. COMMERCIAL CONSIDERATIONS IN HYDROPROCESSING
   - Catalyst Presulfiding
   - Catalyst Deactivation and Regeneration
   - Process Design/Mechanical Design Features

7. COMMERCIAL HYDROCRACKING
   - Hydrocracking Feedstocks
   - Pretreatment Considerations
   - Review of Hydrocracking Reactions/Heats of Reaction
   - Hydrocracking Process Configurations
   - Reactor Design
   - Process Variables and Catalysts
   - Hydrocracking Yields and Product Properties

OPEN FORUM SESSION

DAY 2
8. HYDROCRACKING YIELDS AND PROPERTIES
   - Cut Point Effects
   - Cetane Improvers, Cloud/Pour Point Improvers

OPEN FORUM SESSION

DAY 3
9. HYDROGEN PRODUCTION
   - Steam Reforming for Hydrogen Production
   - Hydrogen Purification Options

OPEN FORUM SESSION

- - - OPEN FORUM SESSION - - -
Stephen J. McGovern has over 35 years of experience in the refining and petrochemical industries. Dr. McGovern has been a principal of PetroTech Consultants for over ten years, providing consulting services on various refining technologies, including hydroprocessing, catalytic cracking, clean fuels and refining economics. He has assisted numerous refiners in the evaluation of gasoline and diesel desulfurization technologies. Previously, he was with Mobil Technology Company where he was involved in process development and refinery technical support. Steve has over 30 patents and publications, many in the areas of gasoline and distillate desulfurization and catalytic cracking. He has lectured, published and consulted on refining strategies for the production of clean fuels. He earned B.S. and M.S. degrees in Chemical Engineering from Drexel University and a PhD in Chemical Engineering from Princeton.

ACCOMMODATIONS / FACILITIES

The program will be presented at the Hyatt Regency North Houston in Houston, Texas. The hotel is located off Beltway 8 (North Loop) at the Imperial Valley Road Exit, and is a 15-minute drive from the Houston Intercontinental Airport. A block of rooms at special rates has been reserved at the hotel for program participants. Room reservations should be made on our website at www.petroleumrefining.com by clicking on “Seminar Registration,” and selecting the program you will be attending. You can also contact the hotel Group Reservations Desk at (281) 249-1234. Please indicate at the time you make your room reservations that you will be attending this Refining Process Services function. We suggest that you make room reservations as soon as possible but no later than October 3, 2016, to get the function room rate and assure your accommodations. Room reservations can be made after this date, but availability and room rate cannot be guaranteed. Hotel information is available on our website at www.petroleumrefining.com.

All program sessions will begin promptly at 8:00 AM in a meeting room at the hotel. Sessions will be completed at 5:00 PM on October 19 and 20. The sessions on October 21 will end at 12:00 Noon. A deluxe Continental Breakfast will be available at 7:15 AM each day of the program. The Continental Breakfasts, the beverage breaks, and two lunches are included in the program registration fee. Note that there is no lunch on the last program day.

REGISTRATION INFORMATION

The Early Registration Fee of US$1,950.00 is payable in U.S. funds via your company’s check drawn on a U.S. bank, an international money order, bank wire transfer, or credit card. To be invoiced or to pay by credit card, you must register on-line at www.petroleumrefining.com. If the registration fee is received after September 21, 2016, the Regular Rate Fee of US$2,150.00 is due, so please register early. Fee includes all program materials, Continental Breakfasts, lunches, and beverage breaks. Please note that fee must be paid in advance of program start date in order to hold space. Lodging is not included and should be handled directly with the hotel. You can forward the form shown below or a copy with a check made payable to: REFINING PROCESS SERVICES, INC., Suite One, 1708 Pittsburgh Street, Cheswick, PA 15024 USA.

Registrations will be accepted through October 10, 2016, if space is still available. Confirmations will be sent to all applicants upon receipt of registration fee. All registrations received after the enrollment is filled will be returned with a full refund. Confirmed registrations canceled within 21 days prior to the start of the program will be subject to a US$200.00 cancellation fee. Those who cancel their registrations within 10 days of the start of the program are subject to the entire fee. There are no refunds for No Shows. Notification of cancellation must be made by email to seminars@petroleumrefining.com or by fax to 412-826-5441. No telephone cancellations. Substitutions may be made at any time. The program directors reserve the right to modify program material, to restrict program attendance, to substitute speakers / panel members without prior notice, or to cancel the presentation with full refund of fee. Sorry, no audio or visual recording equipment is permitted.

If there are any questions, contact Ms. Kim Wunnenberg at 412-826-5440 (FAX: 412-826-5441).

Please forward your mailing and e-mail addresses if you wish to be in our contact data base.

PLEASE PRINT CLEARLY OR TYPE

REFINING PROCESS SERVICES, Inc., Suite One, 1708 Pittsburgh Street, Cheswick, PA 15024 USA

HYDROTREATING & HYDROCRACKING PROCESS TECHNOLOGY

HYATT REGENCY NORTH HOUSTON / HOUSTON, TEXAS USA / OCTOBER 19, 20, 21, 2016

Name: ________________________________ Date: ________________________________

Company/Division: ____________________ Postal Code: ____________________

Title/Position: ________________________

Company Mailing Address: ______________________________________________________

City: ____________________________ Province/State: ____________________________

Country: ____________________________

Business Phone: ____________________ FAX: ____________________________

E-MAIL ADDRESS: ____________________________ Signature: ____________________________