INTRODUCTION

Refining Process Services is again presenting its "Fluid Catalytic Cracking Process Technology" seminar which has been very well-received by the worldwide petroleum refining industry over the past 30 years. This seminar program includes presentations on FCC unit design, FCC process fundamentals, and new developments in the area of fluid catalytic cracking.

PROGRAM

The fluid catalytic cracking process is very complex and demanding. This program has been developed by Refining Process Services to provide an in-depth, yet practical review of current FCC technology. The speakers will cover topics ranging from the basic process principles through items of current interest such as diesel fuel maximization and methods of meeting fuel specifications. The interactions between process variables such as feedstock quality, reaction conditions, and environmental constraints will be discussed. A thorough understanding of these principles is required to optimize the performance of the fluid catalytic cracking unit.

Refining Process Services has assembled a very knowledgeable group of fluid catalytic cracking process experts to present this program. The program faculty includes Mr. Robert Campagna of Refining Process Services and independent consultants, Mr. Warren Letzsch and Mr. Alan English. These individuals have extensive industry experience in their respective specialties which cover all aspects of fluid catalytic cracking process technology.

Program participants will have the opportunity to obtain a broad working knowledge of the fluid catalytic cracking process, to stay abreast of the constantly changing technology, and to interact with others currently working in this field. Participants are invited to submit questions for discussion during the program.

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

PROGRAM OUTLINE

DAY 1
1. FCC Fundamentals
   • FCC Flow Scheme
   • Pressure Balance
   • Process Fundamentals
2. FCC Chemistry and Heat Balance
   • Basic Cracking Reactions
   • Heat Balance
   • How to Get Accurate Test Run Data
3. FCC Variable Effects
   • Operating Variable Interactions
   • Feedstock Effects in FCC
   • Methods of Increasing LCO Yields
   • NOx / SOx Emissions and Reduction

DAY 2
4. Process Equipment Overview
   • FCCU Configurations
   • Hardware Modifications
   • Riser/Reactor/Fractionator Design Principles
   • Recovery Side Operating Guidelines
   • Reactor/Regenerator Troubleshooting
   • Cyclone Operation
   • Air Blower Operation

DAY 3
5. Cracking of Heavy Feedstocks and Resids
   • Characterization of Heavy Feed and Resids
   • Effect of Heavy Oil Cracking on Product Yield and Product Quality
   • Effect of Carbon and Metals
   • Metals Passivation in FCC

6. Fluidization Fundamentals for FCC
   • Basics of FCC Fluidization
   • Flow in Standpipes

7. FCC Catalyst Technology
   • Zeolite Cracking Catalysts
   • Catalyst Composition and Selectivity Effects

8. FCC Catalyst Evaluation
   • Analytical Characterization
   • Performance Testing
   • Impact of Properties on FCCU Operation

9. Review of Recent FCC Technology Developments
   • New Feed Nozzle Designs
   • Advanced Riser Termination Devices
   • Improved Stripper Technologies
PROGRAM FACULTY

Robert J. Campagna is the Director of Technical Services and one of the principals of Refining Process Services. He is currently involved in refining industry technical service, and training program presentations for the company. Bob was previously employed by Filtrol Corporation where he provided technical and marketing support for Filtrol's fluid catalytic cracking catalysts. He also spent 10 years with the Gulf Oil Corporation working in the areas of hydrotreating, catalytic reforming, and fluid catalytic cracking technical service. Bob is a leading independent consultant in the field of fluid catalytic cracking and has presented numerous technical seminars on this subject throughout the world. He holds BS and MS degrees in Chemical Engineering from the University of Pittsburgh.

Alan R. English, an independent consultant, has over 38 years of experience in the petroleum refining industry, having worked for Gulf Oil, Chevron, Sun Company and KBC Advanced Technologies. He has provided troubleshooting, technical support, optimization consulting and training to more than 40 refineries in North America, South America, Europe, Asia and the Middle East. While at Gulf and Chevron, Al was involved in the development and commercialization of the Tin additive for Vanadium passivation and the Bismuth additive for Nickel passivation. He has authored or co-authored 13 publications and has served on the NPRA (now AFPM) Q & A Panel twice. He holds three US patents. He has a BS degree in Chemical Engineering from Lehigh University and has an Executive Masters degree in Technology Management from Stevens Institute of Technology. Al is a licensed Professional Engineer in Pennsylvania.

Warren S. Letzsch is an independent consultant with an extensive FCC background. His prior employment was with Stone & Webster, Inc., a Shaw Group Company, where he was responsible for FCC/DCC technology and business development, and with Refining Process Services where he was involved in licensing of the MagnaCat® Process. He was also Director of Worldwide Sales and Marketing for UOP/Katalytiks. He has had experience with Total Petroleum as Manager of Refining Technology and with Davison Chemical and Shell Chemical in research, marketing, and technical support of petroleum catalysts. Warren has authored many articles on refining technology and holds seven US patents in the FCC area. He holds BS and MS degrees in Chemical Engineering from the Illinois Institute of Technology.

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 April 25, 2016, to get the function room rate and assure your accommodations. Room reservations may be made after this date, but availability and room rate cannot be guaranteed. Hotel information is available on our website at www.petroleumrefining.com.

REGISTRATION INFORMATION

The Early Registration Fee of US$1,995.00 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 online at www.petroleumrefining.com. If the registration fee is received after April 11, 2016, the Regular Rate Fee of US$2,195.00 is due, so please register early. Fee includes all program materials, Continental Breakfasts, lunches, and beverage breaks. Lodging is not included and should be handled directly with the hotel. Please note that program registration fee must be paid in advance of program start date in order to hold space. 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.

ENROLLMENT WILL BE LIMITED. However, registrations will be accepted through May 2, 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.

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

FLUID CATALYTIC CRACKING PROCESS TECHNOLOGY

HYATT REGENCY NORTH HOUSTON / HOUSTON, TEXAS USA / MAY 9, 10, 11, 2016

Name:
Company/Division:
Title/Position:
Company Mailing Address:
City: ________ Postal Code: ________ Province/State: ________ Country: ________

Business Phone: __________________ FAX: __________________

E-MAIL ADDRESS: __________________ Signature: __________________ Date: __________________