



SULFUR CHEMISTRY AND SRU PLANT FUNDAMENTALS TRAINING

WHO SHOULD ATTEND THIS SEMINAR

This training is designed for production and processing personnel involved with sulfur recovery and natural gas treating requiring an understanding of the principles of these process operations. This course is also for facilities engineers, process engineers, operations personnel, field supervisors and others who select, design, install evaluate or operate gas sweetening and sulfur recovery facilities.

WHAT YOU WILL LEARN

1. Overview of Sulfur Recovery
 - a. Sources of Refinery H₂S
 - b. Properties of H₂S in Refineries
 - c. Properties of H₂S
 - d. Properties of Sulfur
 - e. Environmental Regulations
2. Claus Plant / SRU Fundamentals
 - a. Claus Reaction
 - b. Basic Claus Plant Design
 - c. Practicable Capability of the Claus Process
 - d. Process Chemistry and H₂S:SO₂ ratio Control
 - e. Process Units and Design
 - f. Instrumentation
 - g. Tail Gas Units
 - h. Thermal Incinerator
3. Claus Plant Units – Process and Design
 - a. Acid Gas Knockout Drum
 - b. Combustion Air Blower
 - c. Reaction Furnace
 - d. Wasteheat Boiler / Steam Drum
 - e. Condenser
 - f. Reheater
 - g. Converter
 - h. Catalyst Deactivation Mechanisms
 - i. Sulfur Rundowns / Seal Legs / Sulfur Trap

- j. Sulfur Pit
- k. Thermal Incinerator
- 4. Claus Plant Instrumentation
 - a. Acid Gas Knockout Drum
 - b. Metering
 - c. Control Valves
 - d. Reaction Furnace
 - e. Wasteheat boiler / Condenser
 - f. Reheaters
 - g. Tail Gas Analyzer (Air Demand Analyzer)
 - h. Thermal Incinerator
- 5. Sulfur Plant Controls
 - a. DCS (Distributed Control System)
 - b. PLC (Programmable Logic Controller)
 - c. BMS (Burner Management System)
- 6. The Gatekeepers (Operations)
 - a. Unit Operators
 - b. Board Operators
 - c. Plant Upsets
 - d. Claus Catalyst Rejuvenation
 - e. Preventative Maintenance
 - f. Repairs
 - g. Typical SRU Operating Problems and Upsets
 - h. Troubleshooting
 - i. SOPs (Standard Operating Procedures)
- 7. Start-ups and Shutdowns
 - a. Preparation
 - b. Shutdown Procedure
 - c. Start-up Procedure
 - d. Emergency Shutdown

YOU WILL ALSO LEARN

This course will provide participants with an overview of sulfur recovery, sulfur plant controls and operations, start-up and shutdown. It covers the Claus Plant design, process, equipment and instrumentation.

YOUR INSTRUCTOR

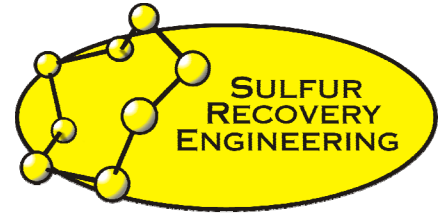
John O'Connell is an "authority" in SRU environmental and engineering circles with John has a proven track record in Sulfur Recovery in Gas Plants and Refineries Worldwide. John's commitment to helping clients meet and exceed stringent global regulatory environmental emissions standards for reducing greenhouse gas emissions through his expert analysis of SRUs is remarkable.

He spent two years as an operator at the Husky Energy Ram River Gas Plant rotating duties between sulfur recovery units, amine units, compressors and utilities. Western Research hired John in May 1991 to lead their team of specialists



for conducting sulfur plant performance evaluations both nationally and internationally. Today, John leads the Sulfur Recovery Engineering team.

With his commitment to helping our clients worldwide, John O'Connell's experience and skill is transforming the Sulfur Recovery Business, worldwide. John remains keenly focused on helping preserve and protect our environment.



John O'Connell graduated from the University of Calgary in 1988 with a Bachelor of Science degree in Chemical Engineering. He has been a member of the Association of Professional Engineers, Geologists and Geophysicists of Alberta (APEGGA) since 1989. John's vision, commitment and innovation through science is renowned worldwide.

PREREQUISITES

An understanding of chemical nomenclature and reaction chemistry would be helpful as well as familiarity with petroleum refinery terminology and units of measure, but is not required for this course. In general, attendees should come prepared to share what they want to learn prior to returning to their workplace.

HOTEL

Sawridge Hotel
530 MacKenzie Boulevard
Ft McMurray, Alberta T9H 4C8 Canada

Toll Free 1-888-729-7343
Phone 1-780-791-7900
website: www.sawridgefortmcmurray.com/

COURSE INFORMATION

June 20-21, 2011
Classes start promptly at 8:00am and will finish at 5:00pm on the first day. On the second day, the class resumes at 8:00am and will finish at 4:30pm. The program includes continental breakfast, lunch, and coffee/cookie breaks. Attendees also receive a class manual that can serve as a valuable office reference. Dress is casual for all seminars.

PAYMENT AND CANCELLATIONS

Course Fee: Early \$1195 (Ends May 20) ~ Regular \$1295. Payment is due prior to the start of the seminar by Visa, Master Card, American Express or corporate check. Seminar fees will be charged to your credit card at the time of registration unless other arrangements have been made. Make checks payable to "SulfurUnit.com". Cancellations can be made up to five (5) business days prior to the start of the seminar for a full refund. No refunds will be made thereafter, but credit will be given for up to one year toward future workshops. Substitutions may be made at any time. For more information on Refining Community policies please contact us.

CONTACT US

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REGISTER

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