



## Sulfur Recovery, Tail Gas Treatment & Incineration Processes

**Potential PDH:** 40

### Description:

This program's content is geared to further improve knowledge and experience with Sulfur recovery, Tail gas treatment and Incineration processes applications. Instructors will cover topics ranging from the basic process principles through items of current interest to become more familiar with specific challenges in these processes and how to effectively deal with these challenges in practice. Program participants will transfer and share the knowledge and best practices in the area of the Sulfur processes.

### Outline:

1. Introduction
2. SRU Process Principles
3. SRU Reaction Furnaces
4. Catalytic Converters
5. Reheaters
6. Sulfur Condenser
7. Liquid Sulfur Treatment
8. SRU Start Up
9. Tail Gas Treating
10. Incineration
11. SRU Turndown
12. Design Considerations
13. Oxygen Enrichment
14. Performance Testing

### Who Should Attend:

This program is ideal for personnel involved in refinery process engineering, unit operations, sulfur sales, and refinery technical service. 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. Managers who have not had previous Sulfur experience would also find this class to be very valuable.

### Subject Matter Expert (SME):

**Gordon Finnie** is a highly respected Process Engineering Consultant with 30 years of expertise in



technical, operational, and process safety leadership. He has a strong track record of improving performance and resolving issues in the oil and gas industry. With extensive experience in sour gas treatment, technical management, reliability assessment, safety integrity study, risk evaluation, QA audits, safety assessments, failure mode, and effects analysis, fault and event trees, HAZOP, fault identification/analysis, and team leadership. He has successfully led refinery modernization projects and addressed plant and equipment failure. Gordon is known for his strategic thinking, analytical skills, and ability to work in diverse environments. He possesses strong leadership, interpersonal, and networking skills, and can communicate complex ideas effectively. His core competencies include project management, budget management, and health and safety. As a consultant, he provides expert technical guidance and support to construction teams, conducts regular risk assessments, and audits, and ensures compliance with safety procedures. He has successfully Improved client's Sulphur Recovery Unit availability from 86% to 95%, reduced environmental emissions excursions by 80%, and eliminated personnel H2S exposure events. Mr. Finnie holds a BSc degree (Hons) in Chemical Engineering from the University of Strathclyde, Glasgow, Scotland

**Alfred E. (Al) Keller** retired from Conoco/ConocoPhillips/Phillips 66 as director of Treating and Sulfur Processing in 2017. Over a 35-year career, he was involved in implementation of the first high level oxygen enriched SRUs, and led the development of the first commercial ion exchange based amine HSS removal (HSSX™) and regenerable particle (SSX™) and oil removal systems (HCX™) for amine solutions. He also led development of SPOC™ technology for replacing SRU burners/thermal reactors with a catalytic reaction system. Al led the development of pre-sulfur pit sulfur degassing technology (ICOn™). He earned 32 US patents for these processes as well as processes for syngas production and HF acid recovery. He developed the training modules for ConocoPhillips/Phillips 66 for amine, sour water, SRU, TGU and caustic treating, and developed/delivered an amine and sour water training course for Brimstone STS. Al currently provides consulting services via Becht in treating and sulfur processing for refineries.