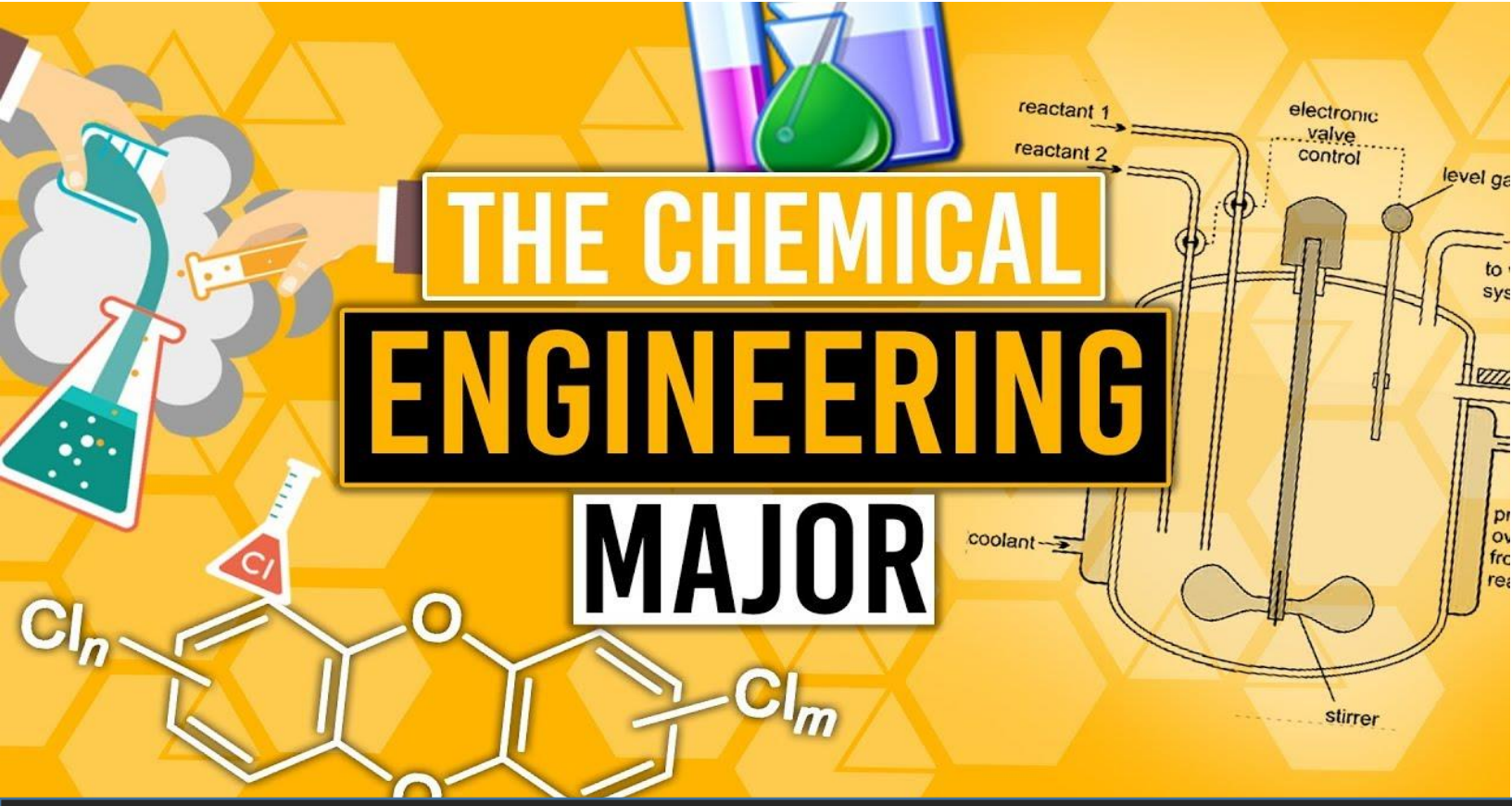

Improving the Performance and Reliability of Fired Heater and Boilers

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BTS
Training & Consultancy

Improving the Performance and Reliability of Fired Heater and Boilers

Who Should Attend?

Operation Supervisors, Maintenance Supervisors, Senior Plant Supervisors, Operations Engineers, Process Support Engineers

Methodology:

This interactive Training will be highly interactive, with opportunities to advance your opinions and ideas and will include;

- Lectures
- Workshop & Work Presentation
- Case Studies and Practical Exercise
- Videos and General Discussions

Certificate:

BTS attendance certificate will be issued to all attendees completing minimum of 80% of the total course duration.

Objectives:

- This course will guide the participates to develop key concepts and techniques for the optimization of fired heaters. These key concepts can be utilized to make operating decisions that can improve your unit's performance.
- Many aspects of fried heaters operations and management can be improved including, energy utilization, product improvements, furnace tube life, and safety. This cannot be achieved without understanding of basic fundamental principles of design and operation.
- These principles need to be understood in advance of operating and trouble shooting a process unit operation for the manager or problem solving to be effective.
- This seminar focuses on the core building blocks of the fired heater systems, equipment and economics. This program will emphasize fired heater unit operation fundamentals, safe utilization of these fundamentals by operations and maintenance personnel, and equipment troubleshooting techniques.

Contents:

- Introduction to Process Equipment
- Introduction to Fired Heater Boilers
- Steam Boilers

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    - Steam Boiler Types
    - Package Boilers
    - Field-Erected Boilers
    - Electric Boilers
    - ASME Code Standards

- Steam Boilers and Fittings

    -
    - Fittings
    - Accessories

- Boiler Room Systems

    -
    - Steam System
    - Feedwater System
    - Fuel Systems
    - Draft Systems

- Steam and Water Accessories

    -
    - Feedwater Heaters
    - Feedwater Pumps
    - Surge Tank
    - Condensate Tank and Pump Unit
    - Main Feedwater Line
    - Feedwater Regulators
    - Steam Traps

    - Desuperheating and Pressure-Reducing Station

- Fuel Burning Equipment

    -
    - Fuel Oil Burners
    - Gas Burners
    - Combination Gas/Fuel Oil Burners
    - Stokers (Coal Burners)

- Draft

    -
    - Measurement of Draft
    - Natural Draft
    - Mechanical Draft
    - Air Heaters
    - Gas and Fuel Oil Draft System
    - Chain (Traveling) Grate Stoker Draft System
    - Pulverized Coal Draft System
    - Scrubber

- Combustion

    -
    - Fuels For Combustion
    - Combustion of Fuels

- Combustion Controls

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- Automatic Combustion Controls
- Building/Plant Automation Systems
- Recorders Smoke Indicators

- Instruments
  -
  - Pressure Gauges
  - Temperature-Measuring Devices & Flow Meters

- Water Level Control Systems
  -
  - Water control levels
  - Hydraulic Test Devices
  - Float controls
  - On/Off Water Control Systems

- Automatic TDS Control Systems
  -
  - Utilizing Waste Heat

- Introduction to Fired Heater
  -
  - General Types
  - Fire Box
  - Convection
  - Stack
  - Burners

- Fired Heater Engineering
    -
    - Fluid Flow
    - Heat Transfer
    - Fuels
    - Design Guidelines
- Introduction to Refinery Fired Heaters
- Introduction to Olefins Fired Heaters
- Introduction to VCM Fired Heaters
- Improve the Efficiency of Fired Heaters
    -
    - Excess Air
    - Burner Types
    - Flame types
- Fired Heater Control
- Fired Heater Safety
- Revamping Fired Heaters
    -
    - Upgrade Convection Section
    - Upgrade instrumentation and Controls
    - Maximizing furnace life
    - Designing for improved maintenance