



Fired Equipment

Consultant / Trainer:

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The **Petrogenium**. Fired Equipment course will provide an introduction to the basics of Fired Equipment, theory of combustion and different forms of fired equipment in practice. Applications in refinery units are discussed in detail.

Participants

This **Petrogenium**. course can be tailored for awareness/inexperienced staff, for intermediate and for experienced personnel. Furthermore the course can be customized for a specific refinery, plant or unit. The option for post-course consultancy/help-desk support is also available.

Participants may include: operational staff and (process) engineers on all levels working on fired equipment in distillation units, process units, utilities, treatment units etc.

Learning Objectives

Combustion theory, Burners, Environmental aspects, Heat Transfer and 2-phase flow phenomena.

Programme

Day 1

Introduction and Basics:

- Theory of Combustion
- Efficient operation
- Heat Transfer in fired equipment
- Two-phase flow in heater tubes
- Failure mechanisms process side

Day 2

- Environmental aspects
- Burner functionality, types, Low NOx
- Combustion control and safeguarding
- Failure mechanisms combustion side

Day 3

Applications of Fired Equipment

- Boilers
- Distillation heaters
- Cracking heaters
- Hydrogen manufacturing
- Exercises