

Petrogenium. Academy

COMBUSTION, FIRED HEATER OPERATION & FLUE GAS TREATMENT

Consultant / Trainer : Dirk-Jan Treur & Louis Jacobs



This **Petrogenium**. Combustion, Fired Heater Operation & Flue Gas Treatment 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.

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.

Training Objectives :

After completion of the course participants will have solid understanding of:

- Combustion theory
- Burners
- Environmental aspects
- Heat transfer
- 2-phase flow phenomena

Programme

Day 1

- Introduction to petrochemical industry
- 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



About the Trainers :

Dirk-Jan Treur, Principal Consultant

Principal Consultant Fired Equipment/Utilities

- Twente University - Mechanical/Thermal Engineering, Master of Science 1995
- 15+ years with Shell in various Heat Transfer, Fired Equipment, Energy, Utilities and Project Engineering roles in both oil refineries and central office technical support organizations.
- Deep expertise in Projects, Design, Construction, Commissioning, Start-up and Troubleshooting of Furnaces, Boilers, HRSG's, OT-HRSGs, OTSGs, Incinerators, Combustion and lecturing
- In 2021 started to work as an independent consultant Fired Equipment & Utilities.
- As part of his work as a Consultant, Dirk-Jan teaches courses on combustion and fired equipment either at **Petrogenium**. headquarters or at customer sites

Louis Jacobs, Principal Consultant Fired Equipment

- Amsterdam University of Applied Sciences, BSc Chemical Engineering 1990
- All-round Fired Heater and Combustion specialist with over 37 years of experience within R&D, basic designs, HAZOP, IPF studies, start-up & commissioning, acceptance testing, lecturing, troubleshooting, RCA's, integrity reviews and de-commissioning.
- These activities covered a broad range of applications in downstream & upstream industry (off/on shore), chemicals, LNG and storage facilities.
- In 2021 started to work as an independent consultant Fired Equipment
- As part of his work as a Consultant, Louis teaches courses on combustion and fired equipment either at **Petrogenium**. headquarters or at customer sites



Why select Petrogenium.?

The above support will be provided by principal consultants with 30+ years world-class experience in the technology and hands-on know-how from operation of refinery units.

Because Experience Matters

Contact Petrogenium.:

Email: training@petrogenium.com

Website: <https://www.petrogenium.com/training/>