PROCESS TROUBLESHOOTING & PROBLEM SOLVING

PCE105
Process and Chemical Engineering

TRAINIT ACADEMY

COURSE TITLE

PROCESS TROUBLESHOOTING & PROBLEM SOLVING

COURSE DATE/ VENUE

01 - 05 February, 2021

London, UK

COURSE REFERENCE

PCE105

COURSE DURATION

05 days

DISCIPLINE

Process and Chemical Engineering

COURSE INTRODUCTION

Excellent Troubleshooting skills are considered a core competency for 'Best-in-Class' industrial companies. If your company's goals include minimizing downtime then this workshop is a must because it delivers rapid, safe Troubleshooting.

COURSE OBJECTIVE

Upon successful completion of this course, the delegates will be able to:

- ✓ Develop a structured approach to troubleshooting and problem solving which uses a common terminology and shared understanding
- ✓ Point the way to continuous improvement in the way you run your processes and make incremental efficiency gains
- ✓ Differentiate between having a techniques manual on the bookshelf and actually making it work

- ✓ Identify the motivated people who should be the champions of troubleshooting and problem solving and who should just follow
- ✓ Explain work practices which allow success in troubleshooting and problem solving

COURSE AUDIENCE

The course is designed for Process Engineers, Shift Supervisors, Senior Operators & Operators who require a wider and deeper appreciation troubleshooting and improve their performance and operation

COURSE CONTENT

Troubleshooting Crude Distillation Unit

- Decrease fractionation
- Inadequate steam stripping
- Energy Wasters
- Overhead corrosion
- Preflash Tower
- Tray Capacity
- Reboilers
- Reflux problems

Troubleshooting of Naphtha hydrodesulphurization

- DHDs Unit
- Reactor temperature increases
- Reactor quench control
- Reactor pressure drop
- Reactor catalyst bed maldistribution
- Reactor section operation
- Reactor hydrogen partial pressure
- High pressure separator level control and pressure control
- Corrosion problems
- Foaming in high pressure separator/amine scrubber

Troubleshooting of continuous catalytic reforming (CCR unit)

- Low reactor Δ T
- High reactor Δ T
- Low Hydrogen production purity
- Low Reformate yield
- High Cooking
- High Reactor Δ P
- Low Reactor ΔP
- Loss of chloride injection

Troubleshooting Amine System

- Dirty Amine
- Reboiler corrosion
- Foaming in scrubber
- loss in Amine Strength
- Reclaimer operation
- Energy Reduction
- Poor Sweetening

Troubleshooting Sulphur Recovery Unit (Clause Reaction)

- Measuring Conversion
- Finding lost conversion
- Start-up problems
- Increased Pressure Drop
- Maximizing plan capacity

Problem solving Technique

- Gathering information
- Facts not views

- Analysis Data
- Define the problem
- Root Coues Analysis
- Suggest alternatives
- Select Solution
- Take Action
- Case Study
- Back to Normal operation
- Reporting

Troubleshooting for Centrifugal Pump and Compressor Problems

- Centrifugal Pump surge
- Cavitations
- Rough running pump
- Capacity decrease
- Pump, Noise
- Leaking seal

Troubleshooting of process heater

- Insufficient Draft
- Controlling Air supply
- Energy Saving Ideas
- Excessive Draft
- Insufficient air
- Oil burning
- Hot Tubes
- Expanding Heater Capacity

Troubleshooting for Vapour liquid separation problems

- High liquid level

- Foaming
- Entrainment

Case Studies for Gas dehydration using Liquid or Solid Desiccant

COURSE CERTIFICATE

TRAINIT ACADEMY will award an internationally recognized certificate(s) for each delegate on completion of training.

COURSE FEES

$6,150 per Delegate. This rate includes participant's manual, Hand-Outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

COURSE METHODOLOGY

The training course will be highly participatory and the course leader will present, guide and facilitate learning, using a range of methods including formal presentation, discussions, sector-specific case studies and exercises. Above all, the course leader will make extensive use of real-life case examples in which he has been personally involved. You will also be encouraged to raise your own questions and to share in the development of the right answers using your own analysis and experiences. Tests of multiple-choice type will be made available on daily basis to examine the effectiveness of delivering the course.

- 30% Lectures
- 30% Workshops and work presentation
- 20% Case studies & Practical Exercises
- 10% Role Play
- 10% Videos, Software or Simulators (as applicable) & General Discussions