

C5-C6 Isomerization unit

AXENS C5-C6 ISOMERIZATION PROCESS

OPERATIONS TRAINING

Objective: To provide in-depth knowledge of the **C5-C6 ISOMERIZATION** process and particularly the client's unit. By the end of the course, the participants will have:

- A general understanding of the significance of the unit within the refinery scheme
- A broad technical understanding of the catalyst and the chemical reactions involved in the process
- A solid knowledge of the Process Flow Diagram and equipment
- A thorough knowledge of operating conditions and their impact on performance
- A good overview of the start-up and shutdown activities (NB: a detailed review of procedures is not included in the course).
- A sound knowledge of the main troubleshooting actions

Duration: The training course lasts 4 days. The duration can be tailored to the participants' level of understanding.

Attendance: This course is targeted to unit process engineers, unit technical managers, shift leaders, and board men. Suitably qualified or experienced outside operators may attend to enhance their process knowledge.

Program: The program below may be modified due to specific customer requirements, subject to an agreement between the customer and AXENS.

C5-C6 Isomerization Unit

Day 1

1. Introduction

- Supply/demand situation
- Market trends
- Environmental regulation
- Focus on the unit in its context

2. Process Objectives

- General information
- Feed characteristics
- Unit duty
- Products' specifications
- Material Balance

3. Process Description

- Process Flow Diagrams
- Piping & Instrumentation Diagrams
- Main equipment (Drawings, pictures and functions)

Day 2

4. Dryers Mechanism and Regeneration

- Dryers objectives
- Adsorption theory
- Dryers regeneration
- Operating variables

5. Process Description

- Process Flow Diagrams
- Piping & Instrumentation Diagrams
- Main equipment (Drawings, pictures and functions)

Day 3-4

6. Start-up Preparation

- Precommissioning key points
- Grading, adsorbents and packing loading
- Leak test
- Inerting

7. Main Start up Activities

- Hydrogen pressurization
- Oil circulation, column start-up
- Drying out of the reaction section (flushing with oil)
- Acidizing and final drying
- Catalyst loading
- Pressurization
- First isomerization reactor line-up
- Second reactor line-up
- Lining-out at design capacity

Day 4

8. Normal Operation and Operating parameters

- Operating parameters
- Performance follow-up (yield, etc)
- Analysis

9. Unit Shut-down/Restart

- Planned shut-down
- Restart

10. Emergency Shutdown

- Emergency shutdown
- Unscheduled shutdown
- Safety Interlocks

11. Troubleshooting

- Typical causes and resolution of product quality incidents
- Operational disturbances

12. Catalyst Special Procedures

- Sulfur stripping
- Unloading

13. Health, Safety and Environment

14. Quiz