

Aromatics Complex Unit : Paraxylene Production

AXENS ELUXYL™

OPERATIONS TRAINING

Objective: To provide in-depth knowledge of the **ELUXYL™** 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 5 days. The duration can be tailored to the participants' level of understanding.

Attendance: This course is targeted for 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.

Day 1

1. Introduction

- Supply / demand situation
- Market trends
- Aromatics complex overview
- Different routes to paraxylene
- Focus on the unit in its context

2. Process Objectives

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

3. Chemical Reactions

- Chemistry and catalysis basics
- Feed chemical composition
- Chemical reactions
- Catalysts
- Catalyst contaminants

Day 2

4. Eluxyl Process Description

- Technology
- Process Flow Diagrams
- Main equipment and principles

5. Eluxyl Adsorption : Theoretical and Mechanical

- Adsorption phenomena
- Continuous counter-current adsorption
- Simulated Moving Bed
- Description of the Adsorption Towers

6. Eluxyl Downstream Separation

Day 3

7. Start-up Preparation

- Precommissioning key points
- Leak test
- Chemical cleaning
- Clay loading
- Sieve loading and internals installation

8. Xylene loop Start-Up

- Xylenes Cold and Hot Loop
- Xylenes Treatment & Inventory
- PDEB Treatment
- Adsorbers filling-up & heating-up / Unit Feed

Day 4

9. Normal Operation and Operating Parameters

- Operating Ratios
- Internal Flow Rates
- Pressure Profile
- Operating parameters
- Performance follow-up (yield, etc)

10. Shutdown and Restart

- Planned shut-down
- Normal restart

11. Emergency Shut-down

- Unplanned shut-down
- Safety Interlock

Day 5

12. Troubleshooting

- Typical causes and resolution of product quality incidents
- Focus on ON/OFF valves

13. Eluxyl Unit Control

- Sequential Control System
- Analysis & Analytical Control

14. Health, Safety and Environment

15. Quiz