

▲ Who should attend?

Engineers and staff involved in the operation of the oil & gas field processing facilities.

▲ Duration

5 days

▲ Dates & Location

April 07 to 11, 2008  
Rueil-Malmaison (Paris)

▲ Tuition Fees

€ 1,940

▲ Course Coordinator

Jacques P ARPANT

Ref. SEC / SAFOP

# SAFETY AND ENVIRONMENT IN SURFACE PROCESSING OPERATIONS

## OBJECTIVES

Give a better understanding of the risks related to the products, the equipment, the operation, and the different works, for a safer operation of the surface production plants.

On completion of the course, participants:

- have a deeper sight of the hazards to be considered in the preparation of decommissioning, commissioning and start-up operations procedures.
- are aware of the risks inherent to the different works, and the good practices to adopt.
- are able to adopt the most appropriate attitude in normal operation and in the event of incidents.
- know the typical safety management practices (prevention and protection) to handle the problems related to HSE.

## COURSE CONTENT

### PLANT OPERATIONS AND SAFETY 0.25 day

Hazards and risks implementation - Consequences: accidents, health problems and environment related damage.

Risk management means: equipment, organizational and human aspects.

### PRODUCT RELATED RISKS 0.75 day

#### Flammability

Risks incurred by flammable products; flash point, explosive limits, ...

Ignition sources: flames, self-ignition temperature, sparks and static electricity, pyrophoric products,

Presence of oxygen - Risks incurred by air inlet.

Preventive measures and precautions: during normal conditions, during draining and sampling operations, in the event of leaks, with regard to storage tanks, during loading and off loading, ...

Boiling Liquid Expanding Vapor Explosion (B.L.E.V.E.) phenomena.

#### Fluid behavior and related hazards.

Vessel pressure and consequences of an increase or decrease in temperature: thermal expansion, vaporization, collapsing due to vacuum, freezing due to pressure relief, ...

### EQUIPMENT-RELATED RISKS 0.25 day

Main risks.

Avoidance of risks through the correct use of commonplace equipment: safety valves, rupture discs, ...

Corrosion hazards and control.

### HAZARDS FOR PERSONNEL 0.25 day

Chemical risks : toxic, corrosive, cancerous, ... - Main intoxication means.

Physical risks: lack of oxygen, thermal burn, radioactivity, electricity.

Protection and prevention means - Individual Protection Equipment.

### SAFETY IN PRODUCTION OPERATIONS 1.5 days

Precautions and risks related to the use of utilities: inert gases, liquid water, steam, air, gas oil, fuel gas

Safety related to blow-down and drainage toward: flare, slops, tanks, oily water, ...

Blinding procedures: conditions for installing blinds or stoppers.

Degassing-inerting: steam, nitrogen, water, vacuum, work permits, ...

Entry into vessels - Atmosphere analysis: oxygen content explosivity, toxicity.

Start-up: checks, accessibility and cleanliness, line up, nitrogen-, water-, steam- or vacuum-inerting.

Seal tests.

Oil in.

### SAFETY IN WORKS 0.5 day

Risks related to lifting: manual and mechanical.

Risks related to the opening or tightening of piping and equipment.

Risks related to works on structures: ladders, scaffolding, nacelles, ...

Risks related to the use of tools.

Risks related to radioactivity and electricity.

### HAZARD ANALYSIS IN PLANT DESIGN AND OPERATION 1 day

Basic concepts; hazards rating

Hazard Identification (HAZID): analysis of plant risk - Check lists, HAZAN, What-if?, HAZOP

Near Misses, incidents: Reporting and Cause Tree Analysis

Applications

### SAFETY MANAGEMENT - RESPONSIBILITIES 0.5 day

Human factors in risk management, safe and unsafe habits motivation, exemplarity, difficulties in improving safety results.

Typical safety organization, keys for a good safety management on field.

Simultaneous operations (SIMOPS) management.

Responsibilities.