

E-521

▲ Who should attend?

Engineers and technicians, who need to read Oil & Gas process schemes. Process, design & construction staff, equipment suppliers for Oil & Gas processing facilities...

▲ Duration

2 days

▲ Sessions in English

April 08-09, 2010
Rueil-Malmaison (Paris)

November 08-09, 2010
Rueil-Malmaison (Paris)

French sessions: F-521

▲ Registration

Fees: € 1,090

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▲ Course Coordinator

Frank BEIJER

Ref. **PROD / SCHEMGB**

At request, this course may be organized for a single company, and tailored to its specific requirements.

SCHEMATIZATION OF OIL & GAS PROCESSES

Block Flow Diagrams, PFD, PID, Plot Plans and Isometrics

OBJECTIVES

To provide the technical knowledge of the Oil & Gas process schematization.

Upon completion of the course, participants:

- are able to distinguish between the different diagrams used in the Oil & Gas industry,
- are able to read and analyze each of these types of schemes,
- know which type of diagram to refer to in order to obtain specific required information,
- are able to communicate better with other teams from different disciplines, contributing to an Oil & Gas project.

COURSE CONTENT

DIFFERENT DIAGRAMS USED IN OIL AND GAS PROCESSING

0.25 day

Different types of diagrams used in the Oil and Gas industry:

Block Flow Diagrams
Process Flow Diagrams (PFD)
Piping & Instrumentation Diagram (P&ID)
Plot Plan onshore and offshore
Isometrics

Symbolization: representation of the different pieces of equipment, the instrumentation...

Illustration by examples of schemes corresponding to the same process unit

DRAWING OF A BLOCK FLOW DIAGRAM

0.25 day

Drawing of the Block Flow Diagram
Identification of the different connections between the blocks
Analysis of the working principle of the whole process

DRAWING OF A PROCESS FLOW DIAGRAM

0.50 day

Reminder of the working principle of the main equipment: valves, separators, desalter, pumps, compressors, heat exchangers...

Drawing of a PFD starting from an illustration and a written description of a crude oil stabilization plant, including associated gases compression unit, crude oil storage and export pumps

Emphasis on the schematization mistakes to avoid: inlet and outlet connections of each piece of equipment, tube side and shell side of heat exchangers, suction and discharge lines of rotating machinery, typical arrangement of compressors (gas cooler, scrubber, anti-surge line...)...

Implementation of the different control loops on the previous schematic, starting from a written description

Emphasis on the instrumentation mistakes to avoid: Connection of sensors, positioning of control valves (inlet or outlet of capacities, suction or discharge or rotating machinery, inlet or outlet of heat exchangers...)

STUDY AND ANALYSIS OF A P&ID

0.50 day

Team work exercises

Analysis of a set of Process and Instrumentation Diagrams, symbols, line numbering, safety systems, etc.

Identification of the different circuits: hydrocarbon, water, utilities...

Analysis of the instrumentation and process control

Drawing of the process flow diagrams corresponding to the studied P&ID

Presentation of the results of each team to the other groups

DRAWING OF ISOMETRICS

0.50 day

Use of isometrics

Exercises of isometric drawing

This course is based on several case studies, based on common Oil & Gas processing facilities.