

CONSTRUCTION ENGINEER TRAINING

FIELD OPERATIONS
Engineering & Construction

E-670

OBJECTIVES

To give the technical background necessary for the design and/or construction supervision of the Oil & Gas production facilities.

On completion of the course, participants:

- know the fundamentals of Oil & Gas field processing techniques,
- acquire a deeper understanding of the pipeline hydraulics, and the constraints relative to fluid flow,
- know the operating principle and technology of the main Oil & Gas equipment,
- are aware of the risks relative to the Oil & Gas production facilities and know the main safety engineering techniques,
- know the main techniques relative to project management and construction work organization.

COURSE CONTENT

OIL & GAS FIELD PROCESSING	5 days
Well effluent composition and characteristics - Effluent behavior	1 day
Crude oil treatment	1 day
Production and Injection water treatment	1 day
Gas processing and conditioning	2 days
PIPELINE HYDRAULICS AND MULTIPHASE FLOW	5 days
Friction losses for single-phase flow	2 days
Multiphase flow in Oil & Gas production – Two-phase flow modeling and simulation	1 day
Gas dominated systems - Oil dominated systems	1.25 days
Flow assurance issues (focus on deep offshore)	0.75 day
CORROSION AND CORROSION PREVENTION APPLIED TO UPSTREAM ACTIVITIES	5 days
Definition and mechanisms of corrosion - Common types of corrosion	2 days
Types of corrosion encountered in the Oil & Gas industry	1 day
Corrosions prevention – Corrosion Monitoring, Fundamentals of inspection	2 days
TECHNOLOGY OF OIL & GAS PROCESSING EQUIPMENT	10 days
Module 1: STATIC EQUIPMENT	5 days
Piping & Vessels – Storage equipment	
Thermal Equipment	
Instrumentation & Process Control – Safety Systems	
Module 2: ROTATING MACHINERY (in Martigues)	5 days
Centrifugal and positive displacement pumps	
Compressors and Turbo-Expanders – Gas Turbines	
OFFSHORE FIELD DEVELOPMENT - PIPELINES AND FLOW ASSURANCE	5 days
Context of offshore developments – Fixed and floating production structures	0.50 day
Construction and installation of platforms	0.50 day
Pipelines: technology, laying and operation – Flow assurance	1 day
Deep offshore developments – FPSO/FSO technology – Operation of Terminals	1.50 days
Flow Assurance: monitoring of deposits and multiphase flow in flowlines	1.50 days
SAFETY AND ENVIRONMENT IN SURFACE PROCESSING OPERATIONS	5 days
Product and equipment related risk – Hazards for personnel	1.50 days
Safety in production operations and during construction or repair works	2 days
Hazard analysis in plant design and operation	1 day
Safety management and responsibilities	0.50 day
SCHEMATIZATION OF OIL & GAS PROCESSES	2 days
Process Flow Diagrams (PFD)	0.75 day
Piping & Instrumentation Diagrams (PID)	1 day
Block Flow Diagrams	0.25 day
PETROLEUM ECONOMICS	3 days
Fundamentals of contracts	0.50 day
Project profitability evaluation – Risk analysis of Exploration & Production projects	1.50 days
Project cost estimation and cost control	1 day
SAFETY ENGINEERING	5 days
Feasibility studies: objective, methodology and deliverables	1 day
Pre-project studies: objective, methodology and deliverables	1 day
Base and detailed studies: objective, methodology and deliverables	2 days
HSE constraints relative to construction and operation: objective, methodology and deliverables	1 day
PROJECT MANAGEMENT	5 days
Petroleum economics and field evaluation process – Project organization	1 day
Contractual strategy and contracts	1 day
Progress and schedule control, Reporting – Technical control of a project – Schedule and cost control	1.50 days
Safety organization for a project	0.50 day
Development phases of a project, Examples – Project management issues	1 day
METALLURGY - CONSTRUCTION OF PRESSURE VESSELS	5 days
Metallurgy	1.50 days
Fundamentals of resistance of materials and non destructive quality control techniques	1 day
Cutting and shaping of materials - Welding of ferrous and non-ferrous materials	1.50 days
Case study	1 day
CONSTRUCTION WORK COORDINATION	5 days
Organization of construction projects	1 day
Preparation of call for tender – Contract specificities	1 day
Management of construction works	1 day
HSE relative to construction works	2 days

▲ Who should attend?

Engineers to be trained for the position of "Construction Engineer" for Oil & Gas surface production activities. The course is also very beneficial to "Construction Site Supervisors".

▲ Duration

60 days

▲ Dates & Locations

Sept. 21 - Dec. 11, 2009
Rueil-Malmaison (Paris)
then Martigues (South)

▲ Registration

Fees: €21,900

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▲ Course Coordinator

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