



HYDROCARBON PRODUCTION OPERATION

Highly Intensive, Interactive & Practical Training Course

COURSE OBJECTIVES:

- To provide sound overview and Principles of Hydrocarbon Production Operations.
- Participants should end up with a good level of understanding of the complete process from well-headed to export of oil & gas.
- Able to describe the overall flow diagram and main plant equipment.
- Know the basic operating principles applicable to all equipment.

WHO SHOULD ATTEND?

Process Operators, Instrument Technicians, Mechanical technicians & Process Supervisors.

COURSE OUTLINE:

Physical Properties Of Hydrocarbons

- ▶ The nature, compositions, and properties of hydrocarbons.
- ▶ The phase behavior of hydrocarbons.
- ▶ Types of reservoirs, vapor/liquid behavior in the well bore.
- ▶ Gas solubility in crude oil, gas/oil (gas/liquid) ratio.
- ▶ The mole concept, ideal and non-ideal gases and compressibility factor. Crude oil, and natural gas specifications

Well Testing

- ▶ Productivity.
- ▶ Built-up and production testing.
- ▶ Fluid flow in pipes:
- ▶ Multiphase flow in pipes and chokes.
- ▶ Pipeline design for crude oil transportation.
- ▶ Single line, loop lines and complex systems.
- ▶ Pumping stations and sizing of pumps and prime movers.



Field Processing Of Gas/Liquid Mixtures

- ▶ Function and types of separators.
- ▶ Sizing of two and three phase separators.
- ▶ Special problems in gas/liquid separation (foam formation and breaking, wax removal, sand production and removal).
- ▶ Flash calculations, the concept of convergence pressure and equilibrium vaporization ratios.
- ▶ Factors affecting separation.
- ▶ Optimization of operating pressure and number of stages.
- ▶ Use of stabilizer in gas /liquid separation.
- ▶ Evaporation losses and vapor recovery systems.
- ▶ Emulsion formation and field treatment of water-oil emulsion.
- ▶ Desalting operations and water disposal.
- ▶ Crude oil sweetening.

Corrosion Problems In Production Operations

- ▶ Theory of corrosion.
- ▶ Nature of metals, factors affecting corrosion.
- ▶ Forms of corrosions and their control and monitoring.