



Training Program:
Custody Transfer Metering Operations

INTRODUCTION:

This comprehensive course provides more insight on custody transfer metering operations. It elaborates all about crude oil fluid flow, flow measuring, metering system, oil transfer meter, types of flow measuring devices, and a lot of other custody transfer operations. This course is developed for engineers and technicians who need to have a practical knowledge of selection, installation and commissioning of fiscal metering equipment. It is for those primarily involved in achieving effective results in industrial processes. This would involve the design, specification and implementation of control and measurement equipment. The course focuses on practical applications, with special attention to installation considerations and application limitations when selecting or installing different measurement or control instruments for fiscal metering.

WHO SHOULD ATTEND?

MGC Coordinators and Supervisors, Instrumentation Engineers & Technicians, Metering Managers and Engineers, Design Engineers, Service Staff and Inspectors of Custody Transfer Stations, Design & Process Engineers, Operation Engineers, Well Testing Group, Production Operation, Maintenance Personnel & Supervisors

COURSE OBJECTIVES:

By the end of this course delegates will be able to:

- Crude oil fluid flow
- Flow measuring and metering system
- Oil transfer meter and types of flow measuring devices
- Design and operating practices
- Calibration and traceability
- How to meet international standards
- Oil quality measurement
- Calibration of oil meters for high pressure natural gas and flow conditions

COURSE OUTLINE

- Basic Fluid Flow
- Fluid Property
- Density, Viscosity, Surface tension, Modulus elasticity
- Compressible & Incompressible Flow
- Fluid Flow
- Continuity Equation
- Bernoulli Equation
- Pipe Fluid Flow
- Fluid Flow Measurement
- Calculation of Oil Quantity
- Meter Factor
- DP Meter
- Compensate the Temperature
- Pump Types and Classification
- Suction and Discharge Heads
- Pumps and Electrical Motor Part
- Mechanical seal, Bearing, Cabling
- Safety Device for the Pumps
- Prover Unit, Make Proving to the Meter and Get Meter Factors
- Flow Measurement and Custody Transfer Fundamentals
- Flow Measurement Best Practices
- Fluid Dynamics and Flow Measurement Devices
- 3-Term PID Control
- Valve Monitor and Control
- Flow Measuring & Balancing and Proving Operations

- Liquid Level Measuring with Temperature & Pressure Compensation & Measuring
- Metering System
- Strainer, Deareater, Traps, Filters
- Temperature and Pressure Transmitters
- Block And Bleeds Valves
- Venting And Drain Valves
- Electric Valves
- Flow Control Valves
- Oil Transfer Meter
- Meter Run
- Proving Skid
- Meter Proving
- Meter Factor, Base Prover, Proving Run
- Prover Pass, Prover, Round Trip
- Types of Flow Measuring Devices
- Flow Meters, Orifice, Turbine
- Ultrasonic, Venture, Coriolis
- Performance Characteristic of Flow Meter
- Accuracy, Repeatability
- Performance Measure, Calculation
- Densitometers
- Pressure/Temperature/Differential Transmitters
- Automatic Samplers
- BS&W Measurements
- Chromatography
- Meter Proving and Instrument Verification/Re-Certification
- Calculation Routines and Verification of Flow Computers

- Implementation of International Standards
- Generic Operating and Reporting Procedures
- Review of Typical Fault Conditions