

Petroleum Tank and Flow measurements for custody transfer



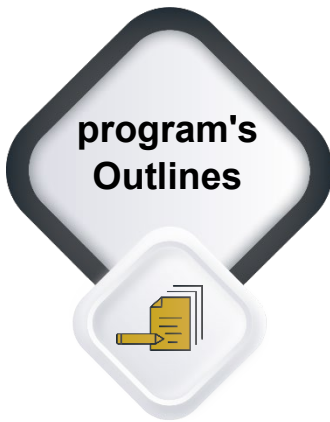
Oil and gas transactions are conducted globally, each and every day. The aim is to do this as accurately as possible. Although there are different methodologies available to the user, it is a known fact that an inaccurate device (or a device that presents a measurement that is less than precise), can cost either the buyer or the seller millions of dollars, due to reading discrepancies.

As not all measuring devices meet the stringent requirements required for fiscal flow measurement, this workshop steps up to the next level, and explores each one of those devices that can meet the current high international standards. These devices are internationally recognized and operate within the stringent norms of accuracy, repeatability and auditability. This training course will highlight:

- Understand the prerequisites of flow measurements such as accuracy and repeatability
- Understanding the principles of static & dynamic petroleum measurement for custody transfer purposes.
- Be knowledgeable on the basic principles and requirements of custody transfer systems
- Be conversant with recent flow measurement meters such as Differential Pressure (DP) Measurement, turbine meters, positive displacement meters, magnetic and ultrasonic flow measurement
- Know the rudiments, principles, and applications of flow computers, calibration, meter runs, proving and supporting automation

At the end of this course, you will learn to:

- Develop a full understanding of accepted equipment and technology currently being used
- Analyze each unique situation, and suggest a working solution that complies with legislation and standards
- Implement a complete fiscal flow metering system, from conceptual stage to commissioning
- Apply methods applicable to calibration and auditing, which comply with international best practice
- Appreciate recent technology utilized for tank gauging and various measurements



Module 1: Aspects and Characteristics of Measurement and Meter Performance

- Overview & Introduction of Custody Transfer
- Principles & Requirements
- Fluid Dynamics (Pressure, Viscosity, Flow Volume, Continuity Principle, Energy Law)
- Basic Custody Transfer Terminology
- Accuracy
- Precision
- Standard Deviation
- Tool for performance monitoring and verification

Module 2: Types and Applications of Flow Meters

- Differential Pressure (DP) Flow Meters (Orifice, Venturi, & Nozzles)
- Turbine Flow Meters, Conventional and Helical
- Ultrasonic Flow Meters
- Coriolis Flow Meters
- Positive Displacement (PD) Flow Meters
- Straight Run Requirement

Module 3: Meters Calibration and Proving

- Metering Prover Systems, flow validation and calibration
- Types of Prover Systems
- Operation of Tank provers, Piston Provers, Displacement types Provers
- General Power Issues Multiphase Flow and Water Cut Measurements
- Reasons for Flow Meter Calibrations
- Differentiation between Calibration and Proving
- Types of Flow Meter Calibration systems
- Calibrating Testing and Proving Data
- Turbine Meter Calibration
- metering validation systems
- Trends
- Risks

Module 4: Tank gauging and Measurement

- Liquid custody transfer
- Measurement by Tanks
- Terms and Definitions
- Gauging Precautions and Procedures

- Tank Gauging Technologies
- Methods of tank level gauge
- Level sensors and transmitters
- Operation Principle of level sensors and transmitters
- Calibration and troubleshooting
- Capacitance Level transmitter.
- Servo tank gauge level transmitter.
- Magnetic level sensor and transmitter
- Conductive level sensor and transmitter.
- Ultrasonic level sensor and transmitter.

Module 5: Supplementary measurements related to custody transfer:

- Collecting representative oil sampling
- Density measurement & Temperature correction
- Basic sediment and water measurements in crude oil (BS&W)
- Pressure measurement
- Temperature measurement

There are a wide variety of people that will find this training course beneficial. Everyone involved in fiscal flow measuring systems (from management to workers) stand to gain tremendous knowledge from the material being presented.

This course is suitable to a wide range of professionals but will greatly benefit:

- Managers
- Engineers
- Process personnel
- Commissioning staff
- Supervisors
- Financial staff
- Auditing staff
- Maintenance staff (of all disciplines)





- ★ Technology-Based Learning.
- ★ Simulation in Training.
- ★ On-the-job guidance.
- ★ Trainer-Led Training.
- ★ Work Teams and Roles.
- ★ Films and Videos.
- ★ Case Studies and Workshops.

Financial Proposal



This fee covers attendance, educational materials, office supplies, and a certificate of attendance.



5 Days



Online Course



From 9:00 am to 2:00 pm (UAE Time)

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