



THE CHEMICAL ENGINEERING MAJOR

Petroleum Tank Measurement, Metering & Meter Proving Seminar

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Petroleum Tank Measurement, Metering & Meter Proving Seminar

Introduction:

This course builds on the fundamentals and intermediate courses along with 2-5 years of field experience in measurement. The course introduces additional troubleshooting and problem solving skills and analysis, system performance analysis; advanced loss control and analysis techniques and advanced dynamic metering systems for volume measurement. It also builds on displacement prover's knowledge by detailing the calibration of provers. The course also covers the Advanced Electronic Flow Computers and Automatic Tank gauging Systems (ATGs). The course uses the API Manual of Petroleum Measurement Standards and the ASTM Test Methods as the basis for instruction. Participants receive classroom instruction and exercises, field exercises, demonstrations, and handouts.

Course Certificate:

BTS Certificate will be issued to all attendees upon course completion

Who Should Attend?

Personnel with 2-5 years of experience in the oil & gas business, especially pipeline, refining and production operations. The course will also provide training for those in measurement operations who actively participate in prover and sampling systems calibration and certifications. These include operators, senior operators, senior technicians and engineers. The course will also benefit those who have a need to expand or enhance their operating knowledge of measurement performance; and those who witness or audit measurement techniques.

Contents:

Participants receive instruction in:

PROPERTIES OF PETROLEUM

- Physical Properties (vapor pressure, NGL/LPG mixing)
- S&W Analytical Testing by Distillation, KF and Sediment by Extraction
- Crude Oil assays by distillation and simulated distillations
- Refined Products analytical quality tests
- Laboratory and classroom demonstrations and exercises

STATIC MEASUREMENT

- Automatic tank gauging by radar, servo gauge, hybrid system, HTG and Mass systems

- Tank Calibration by MTM, ORLM, OTM, EODR, and EORLM methodologies
- Calibration and verification of gauging and tank calibration equipment
- Overview of gauging and sampling of high vapor pressure fluids
- Field and classroom exercises, including calculation exercises

DYNAMIC MEASUREMENT

- Trouble shooting of dynamic measurement systems including meter and prover combinations
- Meter Prover design and troubleshooting of performance issues
- Calibration of meter provers by the Waterdraw, Master Meter and Gravimetric methods
- Overview of metering systems for marine terminals, load racks and gathering systems
- Automatic Sampling systems, performance verification by Water-injection method
- Field and classroom exercises, including calculation exercises

OIL LOSS ANALYSIS

- Oil Loss analysis in 3-region scenarios
- Use of Control Charts and other performance tools
- System trouble shooting techniques

ALTERNATE TYPES OF METERS

INTRODUCTION TO MASS MEASUREMENT (OVERVIEW)