FLOW AND FISCAL METERING

WHAT YOU WILL LEARN:

- Fundamentals and concepts of fiscal metering
- Fundamental principles of oil and gas measurements
- Measurement standards
- Custody transfer metering
- Operating procedures
- Field instruments and their performance
- Properties of fluids
- Different types of flow meters
- How to select, install, maintain and operate fiscal meters correctly
- How to troubleshoot and repair fiscal metering devices
- Personal measurement training

WHO SHOULD ATTEND:

- Design Engineers
- Project Engineers and Managers
- Consulting Engineers
- Automation and Control Engineers
- Chemical and Mechanical Engineers
- Instrument Fitters and Process Control Technicians
- Maintenance Engineers
- Operations and Production Engineers
- Measurement Technicians

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The Workshop

This workshop is 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 workshop 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.

Training Methodology

The latest educational methods and strategies will be employed. Questions are encouraged throughout, to provide participants with the opportunity to discuss with the presenter and others, specific problems and appropriate solutions.

All delegates take away a detailed and comprehensive copy of the material presented; therefore minimal note taking is encouraged to ensure maximum delegate participation and attention. Practical hands-on training ensures knowledge retention.

Pre-requisites

No specialist knowledge or skills are required - only a technical background so that there is an understanding for such factors as the difference between pressure and force.

Practical Sessions

This is a practical, hands on workshop enabling you to work through practical exercises which reinforce the concepts discussed.

The Program

INTRODUCTION TO FISCAL METERING
- Introduction
- Concepts and practice of custody transfer metering
- Flow metering and custody transfer measurement
- Fundamentals of gas and liquid measurement

FIELD INSTRUMENTS AND PERFORMANCE
- Field instrument technologies
- Fiscal quality measurement and methods
- Multiphase measurement
- Appropriate meter selection
- Calibration and methods
- Measurement standards
- Primary, secondary and tertiary measurement equipment
- Sampling

OPERATING PROCEDURES
- Introduction
- Operating principles
- Flow conditions
- Flow conditioners and types
- Startup
- Fault conditions and mis-measurements
- Flow computers
- Control charts

BASIC PROPERTIES OF FLUIDS
- Basic fluid properties
- Non-Newtonian fluids
- Velocity profiles
- Reynolds number
- Flow measurement
- Mass flow rate
- Multi-phase flows

FLOW METERS
- Positive displacement meters
- Inferential meters
- Oscillatory flow meters
- Differential pressure meters
- Variable area meters
- Electromagnetic flow meters
- Ultrasonic flow meters
- Mass flow measurement
- Open channel flow measurement

INSTALLATION MAINTENANCE AND REPAIRS
- Installation
- Commissioning
- Maintenance
- Fault diagnostics and troubleshooting
- Personal measurement training

DOCUMENTATION
- Documentation procedure
- Documentation control

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