MERCURY

Oil & Gas Flow Measurement and Custody Transfer

31 January – 4 February 2027
Dubai (UAE)



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Oil & Gas Flow Measurement and Custody Transfer

Ref: 15334_304552 **Date:** 31 January – 4 February 2027 **Location:** Dubai (UAE) **Fees:** 4900 Euro

Introduction:

When transferring ownership of precious raw and processed assets, such as petroleum and crude oil, you must be sure that the flow measurements you are getting are incredibly exact and up to tight regional authority standards. Numerous businesses depend on flow monitoring, including those in the oil, power, chemical, food, water, and waste treatment sectors. A flow measurement error of less than 1% in a typical processing facility may easily result in an annual revenue loss of several **million dollars** to process or operate daily; these industries need the accurate, precise, and repeatable determination of the amount of fluid whether gas, liquid, or steam that passes through a checkpoint.

Throughout this oil and gas flow measurement and custody transfer training session, participants will obtain a solid and practical understanding of custody transfer and flow measurement methods, concepts, and kinds and how to evaluate their impact on the firm's strategic and tactical goals.

Participants in this oil and gas flow measurement and custody transfer course will be able to comprehend the fundamentals of the tools essential to the organization's financial performance. It is distinctive in exposing students to various financial transaction measuring tools, such as production allocation and custody transfer.

Targeted Groups:

- Technicians involved in the design or operation of custody transfer systems.
- Practicing instrumentation/process Engineers.
- Measurement Superintendents.
- Inventory and Purchasing Control Personnel.
- Managers in the industry.

Course Objectives:

At the end of this oil and gas flow measurement and custody transfer course, the participants will:

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- Possess thorough knowledge of the relevant fluids and gases for the use of flow measurement instruments; regulations are required.
- Recognize the critical specifications for custody transfer systems.
- Recognize characteristics of flow measurements-related inventory control.
- Learn how to recognize flow and level measurement equipment.
- Recognize the fundamental fluid and gas laws needed for flow and level measurements.
- Understand the fundamental specifications for flow measurements, such as accuracy and repeatability.
- Know how to use modern flow measurement devices, such as differential pressure DP meters, turbine meters, positive displacement meters, Coriolis flow meters, magnetic flow meters, and ultrasonic flow meters.
- Learn how to evaluate a metering system's suitability, choose the best custody transfer metering systems, and spot potential issues.
- Learn about the concepts and uses of Flow computers, Quality systems, Calibration, Meter Runs, and Proving and Supporting Automation.

Targeted Competencies:

By the end of this oil and gas flow measurement and custody transfer training, the participant's competencies will:

- Understand principles of flow measurement in oil and gas operations.
- Implement custody transfer techniques and standards.
- Analyze measurement uncertainties and errors.
- Integrate flow measurement technologies with operational processes.

Custody Transfer in the Oil and Gas Industry:

The significance of custody transfer in the oil and gas industry cannot be overstated, as it is the critical juncture at which ownership of oil and gas changes hands. Ensuring accurate and secure transfer is paramount to maintaining trust between parties and ensuring the correct cash flow amount based on the transferred volumes. This essential aspect of the energy sector involves intricate technologies. It adheres to stringent standards to minimize discrepancies and financial risks.

This oil and gas flow measurement and custody transfer course will delve into the complexities of custody transfer, including the requirements, regulatory frameworks, methodologies, and equipment used in the process. Participants will gain insight into the best practices that govern oil and gas transfer operations and how these practices are applied in real-world scenarios.

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Course Content:

Unit 1: Introduction and Key Concepts for Custody Transfer and Flow Measurement:

- Overview of the Custody Transfer Process and Best Practices.
- Introduction, kinds, selection, Velocity, and Density of Flow Measuring Devices Measurements.
- Allocation for dividing up earnings and costs.
- Monetary compensation to regulatory authorities.
- Governing equations for the laws of fluids and gases.
- Accuracy, Precision, Repeatability, and Reliability are terms used in measurement.

Unit 2: General Flow Meter Performance and Characteristics:

- Performance, Accuracy, Stability, Repeatability, Sensitivity, Noise, Linearity, and Reliability of the System and the Flow Range.
- Applications and Usage, Sizing Temperature and Pressure Measurements, Flow Modification and Meter Runs.
- Applications and Types of Flow Meters.

Unit 3: General Characteristics and Performance of Flow Meters:

- System Characteristics and Flow Range.
- Performance, Accuracy, Stability and Repeatability, Sensitivity, Noise, Linearity, Reliability.
- Flow Modification and Meter Runs.
- Applications and Usage, Sizing.
- Temperature and Pressure Measurements.

Unit 4: Applications and Types of Flow Meters continued:

- Meters for ultrasonic flow.
- Flow meters using magnets.
- Uses, Applications, Installation Requirements, and Standards for Coriolis Flow Meters.
- Straight Run Requirement.

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Unit 5: Considerations for Custody Transfer and Flow Measurement Systems:

- Transfer Requirements for Custody.
- Systems for Measuring Meter Factors: Master Meter, Direct, Indirect, Volume, and Displacement.
- Skids for custody transfers.
- Computers and Communication in Flow.
- Measurements of Pressure and Temperature.