

Workshop on

"Bulk Liquid Storage Tanks"

Duration: 5 days

About Us

We are the training providers and deals in Technical, HSEQ, Management and Soft Skills Training.

We have highly knowledgeable and experienced local & foreign subject matter experts. Our team is highly focused and provides the best support as per your requirements and needs.

We provide a platform from where you can add value in you teams. We are highly fascinated on the development of your Technical and Management Teams.

We can provide on-site and classroom training.

About Trainer

Dr. Hussain is qualified petroleum engineer who has both the qualifications and the experiences in dealing with and managing petroleum projects and contracts. He has over 36 years of petroleum and chemical engineering experiences and knowledge both in the field of research; training and consultancy. Currently he is also associated with British technical college as their senior training director

Dr. Hussain had delivered over 72 training courses and has wrote about 21 training manuals for the oil; chemicals and gas industry. He had been awarded by her majesty the queen in April 2006 by the MBE award'.

Dr Hussain has more than 34 years of various experiences in Petroleum Engineering in the Oil & Gas industry (Upstream & downstream) offshore & on-shore in Europe and the Middle East (Iraq; Saudi Arabia; UAE; Oman; Kuwait). He also have experience for more in lecturing; Research; training and consultancy and team leading & management.

He is highly qualified and he has done his PhD in Petroleum reservoir Engineering from Edinburgh and MSc in Oil & Gas Production from Glasgow. He has worked with different conglomerates like ARAMCo, SABIC, Eni Oil Co Libya, Waha Oil Co Libya, Zueitina Oil Co Libya, Melta oil-gas company - Libya, PDO Oman, KNPC Kuwait, ADCO, ZADCo Abu Dhabi, NDC - Abu Dhabi, SOC - Iraq, NOC North Oil Co - Iraq, BAPCo - Bahrain, BP London, BP Iraq, Chevron - Amman, Baker Hughes - Liverpool, British Gas Urmeston, Cytec industry - Bradford-UK, Eli-Lilly industry - Liverpool UK, KOC - Kuwait as their consultant and trainer.

Course Description:

This course covers the Oil Tanks Calibration, Petroleum Measurement, fundamentals of tank gauging, the principles of operating primary dynamic meters, and a base knowledge of meter proving, factor calculation, and meter/tank ticket calculations. Uses the API Manual of Petroleum Measurement Standards and the ASTM Test Methods as the basis for instruction.

The course aims to provide training on Oil Tanks Calibration and the special topics of volume and density measurements in tanks and vessels used in processing plants and foresees therefore general tank measurement and calibration exercises.

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).

In addition, the course Introduces basic troubleshooting, problem-solving, and system performance analysis on both static tank measurement and dynamic measurement of quality and quantity of petroleum including refined products. Provides more information on the design and operation of various meters, prover, and automatic sampling system designs and the use of flow computers and covers advanced techniques in loss control analysis, dynamic metering systems, and various methods of calibrating both meter provers and above-ground storage tanks. Addresses needs for advanced EFMs and ATG systems. Uses API MPMS and the ASTM Test Methods.

The
HIPPCAMPUS
Industrial Training & Consulting

Contact Us

Phone: +92 310 265 8003

Email: training@hippocampusgroup.com

Web: www.hippocampusgroup.com

Course Content:

Day 1 Static measurement

- * Types of tanks
- * Fundamentals of tank calibration by the manual strapping method
- * Lease tanks: level gauging, temperature and free water determination, and manual sampling
- * Static measurement–tank calibration (ORLM and TSRLM methods); liquid level innage and ullage (manual and automatic); cone and floating roof tanks; static sampling; calculation of tank measured quantities; and tank measurement error sources.
- * Static Measurement – ATG by radar, servo gauge, hybrid system, HTG, and mass systems; tank calibration by MTSM, ORLM, OTM, EODR, and TSRLM

Day-2 Oil & Gas Storage Tanks

- * Products Storage And Loading:
 - Types of storage tanks
 - Location and design of tank-farm
 - Storage capacity, oil pipeline
 - Pumping stations
 - Loading techniques
 - Problem solving
 - Pipeline cleaning
 - Loading rate,
 - Candidates will understand the principles of topics in oil & gas storage.
- * Transport and Control of Fluids
 - Processing Fluids
 - > Construction and operating principles of equipment used for the storage and processing of liquids and gases
 - > Safety hazards associated with the processing of fluids
 - > Construction of pipe work systems
 - > Construction and operation of pumps and valves
 - > Pumps types construction and operations
 - > Compressors types and applications
 - > Pumps troubleshooting

- > Compressors performance and problems
- > Pipe-work specifications
- > Pipes sizes and standards
- > Valves types and construction
- Safety hazards involved in pumping and transport of fluids
- The students will have had experience of pumps, pipelines, valves...etc.

Day-3 Dynamic measurement

- * Overview of LACT/ACT installations
- * Introduction to automatic sampling
 - The flow metering theory
 - The operation of PD
 - Turbine, Coriolis, and ultrasonic meters
 - Meter provers, meter proving, and prover calibration; and them calculations of meter factors and tickets
- * Dynamic measurement–theory
 - Selection, design, operations, performance
 - Application of different types of meters
 - Provers, and samplers
 - Calculation of meter factors (MULTIGRADE)
 - Measurement tickets
 - Proving Coriolis in mass or volume mode
 - Introduction to meter performance and control charts.
- * Dynamic measurement systems:
 - Troubleshooting
 - Meter prover design and performance issues
 - Calibration of meter provers
 - Metering systems for marine terminals and load racks
 - Automatic sampling systems and performance verification

Day-4 Tanks vessels Sizing & Calibrations

- * This provides sizing for tanks and based on the ASME methods.
 - Sizes; volume; thickness; inspection; and flow for liquids and gases
 - Calculates the discharge coefficient for several different types of tanks.
 - Solves for the tanks diameter, pressure.
 - > Maintenance and calibrations techniques
- * Health and safety in handling oil products, risk assessment, hazards qualifying and COSHH regulations.
- * Environmental impact of oil products, spillage, contaminations, water handling. Sludge and cleaning processes.
- * Costing and financial issues in dealing with oil and petroleum products

Day-5

- * All types of tanks will be discussed and described including
 - Fixed roof tanks
 - Floating roof tanks
 - NGL vessels
 - Gas cylinders
 - Pressure vessels
 - LPG cylinders and tanks
 - Spherical Tanks
 - API specifications and standards
 - Fitting and connections
 - Basements
 - Bund well

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