



مركز المستشار الوطني للتدريب
National Consultant Centre For Training

**5-Day Intensive Training Course
In**

Terminal Operation and Shipping Documentation

Dubai, 03 – 07 November 2013

Course Objectives:

The course will enable participants to fully understand all types of measurements used in crude oil & petroleum product in tank farms & depots. The course will also cover shipping operations and the related ship/shore documentations

Who should attend?

This course is intended for terminal operators and staff responsible for shipping documentation

Course Contents

1. **Crude & Products Storage Tanks**
 - Types
 - Design
 - Foundations
2. **Introduction to petroleum measurement and loss control**
 - Types of errors
 - Sources of errors
 - Primary and secondary measurements
3. **Calibration of upright cylindrical tanks**
 - Tank Preparation
 - Bottom survey
 - Strapping methods
 - Optical reference line methods
 - Electro-optical distance ranging method
4. **Manual measurement**
 - Manual level measurement
 - Manual temperature measurement
 - Manual free water measurement
 - Manual sampling
5. **Common Problems in manual measurement**
 - Bottom movement
 - Sludge formation
 - Temperature measurement
 - Sampling
 - Free water determination
6. **Automatic tank gauging systems**
 - Types of automatic tank gauging systems
 - Principle of operation
 - Level , free water and density measurement

تليفون: ٦٦٥٨٢٠٠ - فاكس: ٦٦٥٣٣٠٣ - ص.ب: ٢٦٣٥٦ - أبوظبي - الإمارات العربية المتحدة

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- Automatic temperature compensation
- Specifications
- Installation
- Operation
- Interface with terminal automation system
- System configuration
- Calibration
- Maintenance techniques

7. Quantity calculations in storage tanks

8. Dynamic measurement

- Positive displacement meters
 - Principle of operation
 - Remote readout
 - Maintenance
 - Metering line
 - Installation
- Turbine Meter
 - Principle of operation
 - Remote readout
 - Maintenance
 - Metering line
 - Installation

9. Proving systems

- Tank prover method
- Pipe prover method
- Master meter method

10. Petroleum quantity calculations.

- Shore tank calculation
 - Standard tables
 - Correction and conversion factors
 - Example for inland roof tank calculation
 - International system of units SI
 - Roof displacement calculations
- Shipboard calculation
 - Wedge formula
 - Example for vessel calculations
 - Vessel experience factor
- Dynamic quantity calculations
 - Correction factors
 - Example for dynamic calculation
 - Proving reports and K-factor

11. Typical measurement documentation

- Report of shore quantity
- Bunker inspection report
- Inspection check list
- Letter of protest – shore
- Load on top monitoring record
- Bill of lading
- Cargo quantity options certificate
- Laboratory report of quality
- Letter of protest – vessel



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- Marine – cargo inspection – sample receipt
- Notice of apparent discrepancy
- Slop record
- Telex communication
- Vessel discharge record
- Voyage analysis report
- Wedge calculations
- OBQ / ROB report
- Tank inspection report
- Tim log
- Vessel experience factor record
- Voyage shore comparison with VEF
- Metered quantity report

12. Legal aspects of the transportation by water of crude oil and petroleum products

- Terms of sale (FOB, C & F, CII, EX-ship)
- Charter party
- Inter-relationship between charter party and bill of lading
- Cargo claims documentation and forms
- Insurance
- Laytime
- Specifications of vessels calling the terminal
- Bill of lading
- Disputes
- Demurrage