





# Maintenance and Inspection of Tanks

Ref.: 15364 305422 Date: 02 - 13 Dec 2024 Location: Paris (France) Fees: 9500 Euro

#### Introduction:

Through this course we aim to focus on the digitalization, robotic innovations, fire safety, operational changes to implement through detailed terminal data that allows you to leverage on blockchain technology.

## **Targeted Groups:**

- Terminal Managers
- Plant Managers
- Inspection Managers
- EHS Environment, Health & Safety Managers
- Head of Engineering Projects
- Environmental Engineers

## **Course Objectives:**

At the end of this course the participants will be able to:

- Investigating the ageing behavior of terminals to ensure tanks operate beyond lifecycle
- Innovating solutions to overcome production constraints while strengthening operational efficiencies in tank management
- Driving energy transition and climate initiatives in the face of volatile and shifting markets
- Complying to updated standards and legislations for tank load design specifications
- Powering the future challenges and developments of the terminal sector

#### **Course Content:**

# **Unit 1: Innovation in Terminal Management and Operations**

- Improving efficiency and quality in tank maintenance using robotic solutions
- Innovative levels and interface measurements for tank operations
- Intelligent wearable: Seeing through the eyes of the mobile worker

# **Unit 2: Structural Loading Standards:**

- Overview of ASCE 7-22: Specifications of Loads for General Structure Designs
- Ensuring safety of the public is maintained under all circumstances
- Determining design loads for all hazards in a terminal
- Analyzing and evaluating load combinations



# **Unit 3: Tank Integrity:**

- The Changing Landscape of Tank Storage: Ageing Issues of Terminals
- Investigating the ageing behavior of terminals and acknowledging the potential threats
- Recognizing and acting fast to improve tank lifecycle while avoiding costly leaks or potential tank failures
- Evolution of oil storage tanks and future designs capabilities

## **Unit 4: Corrosion Management:**

- Effectiveness & Performance of Tank Bottom Vapor
- Phase Corrosion Inhibitors VPCI An Industry Perspective
- Sharing of results from testing conducted at University of Technology PETRONAS UTP utilizing numerous VPCI vendors

## **Unit 5: Digital Asset Maintenance:**

- Utilizing Blockchain for Tank Operations, Reliability and Maintainability
- Holistic approach to coordinate equipments, systems and people
- Improving efficiency and flexibility for operational decisions through blockchain technology
- Providing transparency and pro-active decision supports for users that are monitoring and managing operations from control center systems

#### **Unit 6: Hazards Prevention:**

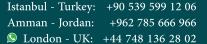
- Mechanical Assessment of Fuel Storage Tank Under or After Fire
- Interpreting the thermal and structural analysis of a fuel storage tank under an adjacent pool fire
- Analyzing the risks of a fuel storage terminal using Hazard and Operability analysis HAZOP
- Maximizing safety and environmental standards of fuel storage sites

# **Unit 7: Carbon Capture:**

- Paradigm Shift in Demand: Moving from Traditional Fossil Fuels to Greener Option
- Manipulating from crisis to opportunity
- Developing a carbon capture roadmap for tank terminals
- Application of carbon capture and storage CCS to enhanced oil recovery

# **Unit 8: Optimizing Terminals:**

- Keeping Up with Rapid Change: Storage Terminals
- Limitation or Expansions
- Upgrading and expanding the design of container terminals
- Replacing the manually operated conventional equipments with semi or fully-automated improvements
- Relocating and consolidating products of existing customers and optimize the use of current storage capacity for new customers and products





## **Unit 9: Crisis Management:**

- Breaking Down Barriers: Causes, Prevention & Examples of
- Storage Tank Failures
- Protecting tank failure due to bottom leakages from Stress Corrosion Cracking SCC
- Climate management: Enhancing resilience of tanks to lightning strikes and adaptation
- Understanding direct impacts of explosion and fire on tanks and terminal infrastructure

#### **Unit 10: New Oil Data:**

- Utilizing the Power of Data and Advanced Analytics to Optimize Overall Tank Operations
- Streamlining reports and standardizing data collection from terminal facilities Improving the real time flow of data to enhance operations while creating a pro-active environment
- Shortened response times with automated data collection

#### **Unit 11: Limitation of Poor Soils:**

- Ensuring Two Decades of Storage Tanks are Supported on Ground Improvement
- · Determining ground improvement techniques for stabilization of soil
- Evaluating storage tank settlements and acceptable tank settlement criteria
- Implementation of specific foundation measures to ensure design specifications are satisfied

## **Unit 12: Operational Excellence:**

- Management of Change MOC: Terminal Productivity
- Leveraging changes in tank equipment design
- Process Safety: Changes in operating, inspection and maintenance procedures
- Product Switch: Avoid contamination of different products handling

# **Unit 13: Tank Technology:**

- Wireless Overfill Prevention Systems
- Understanding API-2350 for storage tank overfill prevention philosophy and practice
- Determining tank capacity and product levels
- Revolutionizing wired to wireless systems

# **Unit 14: Pathway for the Future:**

- Robotics & Drones: Automation Processes to Minimize Human Errors
- Improving safety, efficiency and quality in tank maintenance with automation processes
- Utilizing drones for unlimited flight time while ensuring a robust data connection throughout the inspection
- Transforming non-person entry robotic tank cleaning solutions to ensure workers aren't endangered by operation procedures
- Optimizing tanker port calls through data sharing and digital collaboration





# Registration form on the : Maintenance and Inspection of Tanks

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Complete & Mail or fax to Mercury Training Center at the address given below

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