



Maintenance and Inspection of Tanks

14 - 25 Jul 2024
Cairo (Egypt)



Maintenance and Inspection of Tanks

Ref.: 15364_305407 **Date:** 14 - 25 Jul 2024 **Location:** Cairo (Egypt) **Fees:** 6000 **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 :
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