STORAGE TANK DESIGN, CONSTRUCTION & MAINTENANCE

08 - 12 Dec 2019, Dubai
16 - 20 Dec 2019, Amsterdam
24 - 28 Aug 2020, Houston
06 - 10 Dec 2020, Dubai
INTRODUCTION

Storage Tank Design, Construction & Maintenance is a course designed to offer the participants an insight of how tank farm storage tanks are designed, constructed, operated, inspected and maintained. This GLOMACS Storage Tank Design, Construction & Maintenance training course provides a comprehensive detailed overview of the American Petroleum Institute API-650, API 620 and API 2610 specifications as well as the API 653 inspection standard.

Storage tanks are containers that hold flammable liquids, or compressed flammable gases for short, medium or long-term storage. Crude oil or crude product storage tank design and construction, as used in industries such as petroleum production, refinery tank farms, intermediate product storage including LPG, and product transfer operations, petrochemicals, as well as other industries consuming or producing flammable liquids, will be covered. This GLOMACS Storage Tank Design, Construction & Maintenance training course will highlight the most recent revisions and upcoming changes in the aforementioned standards and will in addition include essential storage tank technology not covered by these standards.

OBJECTIVES

The aim of this comprehensive GLOMACS Storage Tank Design, Construction & Maintenance training course is to provide the delegates with a sound understanding of the main features of flammable fluids’ storage, in above ground storage tanks, that are available in many shapes and sizes and includes: vertical and horizontal, cylindrical; open or closed with or without floating roofs. In addition, you will learn the fundamentals of tank terminal design, construction, operation, maintenance, and inspection.

At the end of this GLOMACS training course, participants will:

- Learn about Tank Design Features and Components
- Have an Understanding of Storage Tank Construction Methods
- Know the Various Materials of Construction Associated with Storage Tank
- Grasp the Relevant Types of Storage Tank and their Associated Terminologies
- Assess Storage Tank Performance
- Appreciate the Governing Equations Associated with Tank Design
- Learn about Tank Safety Issues
- Learn about Tank Standards and Codes
- Appreciate Failure Mechanisms including Corrosion
- Learn about methods of Tank Protection, including Linings and Cathodic Protection
- Have an Understanding of Different Methods of Inspection

TRAINING METHODOLOGY

This GLOMACS Storage Tank Design, Construction & Maintenance training course will be conducted along with workshop principles such as formal lectures, computer simulation, videos and interactive worked examples. Relevant case studies will be provided to illustrate the application of each tool in an operations environment. Each learning point will be re-enforced with practical exercises and ample opportunities for discussion and sharing of experiences.

WHO SHOULD ATTEND?

This GLOMACS Storage Tank Design, Construction & Maintenance training course is intended for tank farm and refinery employees or engineers who are required to select and or are involved in tank design, as well as anyone working in crude oil and or product storage facility. It is also intended for, but not limited to, professionals involved in handling, loading, or discharging of oil and gas cargoes.
## DAY 1

### Storage Tanks Introduction
- Review of Energy Production and Consumption
- Basic Properties and Characteristics of Petroleum and Products in Storage
- Storage of Flammable Liquids - safety & risk
- Fire Fighting & Fire Protection
- Handling Oils Spills and other Emergencies
- Introduction and Uses of Storage Tanks

## DAY 2

### Tank Design Standards and Codes
- API Standard 650 Design and Construction of New Storage Tanks
- API Standard 620 Design and Construction of Large, Welded Low-Pressure Storage Tanks
- API Standard 2610 Design, Construction, Operation, Maintenance and Inspection of Terminal & Tank Facilities
- Types of Tanks, Bolted, Welded, etc.
- Tank Components, Fittings and Equipment
- Tank Roofs, Fixed, Floating, Roof Supports etc.
- Tank Rim and Seals
- Tank Vents & Vacuum Brakers
- Tank Drainage and Water Separation
- Design, Sample Problem of a Heated Tank

## DAY 4

### Tank Construction Engineering Considerations
- Materials Selection
- Welding and Welding Inspection
- Design Loading and Selected Tank Equations
- Tank Coatings
- Tank Manufacturing and Assembly
- Tank Damage
- Corrosion Protection, Cathodic Protection, etc.

## DAY 5

### Inspection and Maintenance
- API Standard 653 - Tank Inspection, Repair, Alteration and Reconstruction
- Nondestructive Inspections
- Tank Failure Case Studies
- Tank Inventory System (TIS)
- Level Measurement Sensors, Techniques and Control
- Course Review and Roundup

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REGISTRATION DETAILS

LAST NAME:________________________________________
FIRST NAME:_______________________________________
DESIGNATION:_____________________________________
COMPANY: ________________________________________
ADDRESS: _________________________________________
CITY:______________________________________________
COUNTRY: _________________________________________
TELEPHONE:_______________________________________
MOBILE: __________________________________________
FAX:________________________________________________
EMAIL:_____________________________________________

AUTHORISATION DETAILS

AUTHORISED BY:___________________________________
DESIGNATION:_____________________________________
COMPANY: ________________________________________
ADDRESS: _________________________________________
CITY:______________________________________________
COUNTRY: _________________________________________
TELEPHONE:_______________________________________
MOBILE: __________________________________________
FAX:________________________________________________
EMAIL:_____________________________________________

PAYMENT DETAILS

☐ Please invoice my company
☐ Cheque payable to: GLOMACS
☐ Please invoice me

TERMS AND CONDITIONS

• Fees – Each fee is inclusive of Documentation, Lunch and refreshments served during the entire seminar.
• Mode of Payment – The delegate has the option to pay the course fee directly or request to send an invoice to his/her company/sponsor. Credit card and cheque payments are both acceptable.
• Cancellation / Substitution – Request for seminar cancellation must be made in writing & received three (3) weeks prior to the seminar date. A US$ 250.00 processing fee will be charged per delegate for each cancellation. Thereafter, we regret that we are unable to refund any fees due, although in such cases we would be happy to welcome a colleague who would substitute for you.
• Hotel Accommodation – is not included in the course fee. A reduced corporate rate and a limited number of rooms may be available for attendees wishing to stay at the hotel venue. Requests for hotel reservations should be made at least three (3) weeks prior to the commencement of the seminar. All hotel accommodation is strictly subject to availability and terms and conditions imposed by the hotel will apply.
• Attendance Certificate – a certificate of attendance will only be awarded to those delegates who successfully completed/attended the entire seminar including the awarding of applicable Continuing Professional Education Units/Hours.
• Force Majeure – any circumstances beyond the control of the Company may necessitate postponement, change of seminar venue or substitution of assigned Instructor. The Company reserves the right to exercise this clause and implement such amendments.
• Fair Access / Equal Opportunities – In the provision of its services as a world-class Training Provider, the Company is committed to provide fair access / equal opportunities throughout the delivery of its courses and assessment leading to the completion of training seminars, or 3rd party qualifications/certifications.