



2KG TRAINING

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Advanced API Storage Tanks Course: AP1650 AND API653 DESIGN, MAINTENANCE AND INSPECTION

Presenter: Alex Fereidooni

ABOUT THE PRESENTER: ALEX FEREDOONI



Dr. Alex Fereidooni has over 20 years experience as both an owner-user and a consultant providing engineering support to refineries and chemical plants, storage facilities worldwide. He is a specialist in Storage tanks, pressure vessel and piping design/analysis and performing Fitness-For-Service assessments using the rules of API and international codes.

He has experience as the lead mechanical and structural engineer at a major refinery, providing direction and guidance to others in evaluating and solving problems associated with fixed equipment.

Alex utilizes state of the art finite element analysis software to develop best fit maintenance program for pressure components and systems. He has strong academic and industries experienced in Static/Dynamic linear and non-linear Stress Analysis, Fatigue and Fracture mechanics. He has many publications and presentations in referees conferences and journals.

Number of days: 5

Cost: \$3500

CPD Points: 5

PURPOSE

To present various common storage facilities for liquid and gaseous hydrocarbons and explain their configuration, tank farm requirements, design, operation and maintenance aspects.

WHO SHOULD ATTEND

The course is suitable for storage tank engineers, inspectors and operators involved with storage tank design / fabrication / erection / modifications / maintenance and operation

OBJECTIVE

By the end of the course, the participants will be able to:

- Distinguish function of structural parts of and fittings to conventional storage tanks
- Explain design and operational aspects of storage tanks
- Set up inspection and maintenance programmes/schedules
- Differentiate maintenance methods (condition/repair)
- Define the maintenance scope
- How to read Inspection Reports properly

COURSE HIGHLIGHTS

Review of codes requirement, structural design, material, fabrication, and erection for new storage tanks	Tank shell, roof, bottom, and foundation evaluation
Tank Shell Design (1-foot method, Variable design point method)	Introduction to Brittle Fracture Mechanics
Tank Roof Design	Tank repair and alteration
Tank bottom layout design	Pre and post weld heat treatment
Tank material selection	Dismantling and reconstruction
Tank internal structural members design	Tank settlement criteria, measurement, and evaluation
Shell opening and Nozzle design	Tank lifting methods and stress induced on tank shell, roof and corner welds
Wind and Seismic loading analysis	Tank ventilation requirements API 2000
Tank foundation design	Tank maintenance and repair management (Tank program-data sheet)
Elevated temperature tanks design	Old riveted tank design to API 12 A, maintenance-repair
Internal external floating roof	Tank operations level set up API 2350
Tanks with external pressure	Introduction to API 580-581 Risk based Inspection Planning
Tank construction, welding qualification and procedure	Introduction to API 571 damage mechanism
Inspection of Storage Tanks, NDE tests	Introduction to Fit-For-Service API 579
Corrosion evaluation and tank life prediction calculation	Introduction to Finite Element Modeling of storage tanks