

Training Title

Pressure Vessel Integrity through Design, Operations, Maintenance, Inspection and Analysis Training

Training Duration

5 days

Training Fees

- 3300 US\$ per participant for Public Training includes Materials/Handouts, tea/coffee breaks, refreshments & Buffet Lunch

Training Certificate

Define Management Consultants Certificate of course completion will be issued to all attendees.

Who Should Attend

Mechanical, Process, Plant and Inspection engineers as well as middle management, Supervisors, Superintendents.

COURSE DESCRIPTION

The aim of this course is to provide the participants with a complete and up-to-date overview of all facets of pressure vessels from concept, design, commissioning and operation, maintenance, periodic inspection, defect evaluation and repair. Upon the successful completion of this course, the participant should have a solid understanding of the design code requirements, operational guidelines to prevent damage, maintenance programs, inspection requirements and recommendations, types of defects and degradation, evaluation of defects and degradation, re-rating, repairs and documentation files. Further, this course will provide Mechanical, Process and Inspection engineers as well as middle management with the framework to maximize their return on investment with a structured pressure vessel integrity program focusing upon safe and economical practices.

COURSE OBJECTIVES

- To provide skills, knowledge and understanding of the pressure vessel life cycle from concept, design, fabrication, operational life, inspection and repair.
- Familiarize participants to the tools and techniques for implementing an economical pressure vessel integrity program
- Operational practices to optimize vessel service life
- Periodic maintenance and inspection programs
- Extend the life of existing pressure vessels
- Minimize unscheduled vessel shut downs and unnecessary repairs

- Vessel re-rating and de-rating
- Present case history examples regarding pressure vessel design, fabrication problems, operational upsets, defects and repairs.

COURSE OUTLINE :-

- Life cycle of a pressure vessel, concept to retirement
- Economic considerations, corrosion, life expectancy, materials
- Operations considerations, isolation, redundancy, process dependency
- Maintenance considerations, periodic inspection, access, internals, repairs
- Failure modes and mechanisms
- ASME / API Code Roadmap
- Design Codes, similarities and differences
- Welds and weld strength
- Horizontal Vessel Design considerations
- External Pressure Design
- Flanged joint problems, causes and solutions
- Fabrication methods and concerns
- Required / recommended inspection and testing
- Heat Exchangers, design, types, TEMA
- API-510, Vessel Inspection Code overview
- Inspector duties
- Fitness For Service Overview
- ASME Section IX, Nuclear and BS-7910 FFS methods
- Finite Element Analysis, theory,
- FEA examples (stress, thermal, creep, yielding)

Case Studies, Discussions & Last Day review will be carried out

.....