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FE047:
ASME B31.8 Gas Transmission and Distribution Piping Systems

Training Description:

This intensive training course provides the requirements for the design, fabrication, installation, testing and safety aspects of operation and maintenance of gas transmission and distribution piping systems including gas pipelines, gas compressor stations, gas metering and regulation stations, gas mains, and service lines up to the outlet of the customer's meter set assembly.

Furthermore, the requirements of ASME B31.8 applicable to the elements of piping systems, including but not limited to pipe, valves, fittings, flanges, bolting, gaskets, regulators, pressure vessels, pulsation dampeners, and relief valves are exhaustively

The course will highpoint:

- Piping system components and fabrication
- Considerations for material specifications, pipe manufacturing and pipe joining
- The pressures design formula for internal and external stress
- Construction, welding, assembly inspection and testing
- Explain the requirements for operation and maintenance
- Pipeline repair techniques
- Elements of pipeline integrity
- Explain the causes and modes of pipeline failure related to internal or external corrosion
- Requirements for the offshore pipeline related to materials, inspection, testing, Operation and Maintenance procedures
- Requirements for the sour gas service

Training Objectives:

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

- ✓ Identify the design stress and calculate the pipe wall thickness
- ✓ General criteria for piping components which includes branches, flanges, valves, reducers and closures
- ✓ Explain the materials — General requirements, acceptance and limitation
- ✓ Gain more information about the construction, welding, and assembly of gas pipelines
- ✓ Identify the required inspection and testing of the pipelines
- ✓ Receive the enough information about the operation and maintenance procedures affecting the safety of the gas transportation piping systems
- ✓ Focusing and learning on the internal and external corrosion monitoring, control and cathode protection
- ✓ Explain the offshore liquid pipeline systems related design construction inspection and testing and sour gas service

Training Designed for:

This course is intended for those involved in the design, analysis, fabrication, installation, maintenance or ownership of pipeline and piping systems. Furthermore, the course will greatly benefit Gas Pipeline Engineers, Gas Facilities Engineers, Project Managers, Pipeline Designers, Inspection Engineers, Operations and Maintenance Personnel, QA/QC Reliability Departments for oil and gas (petrochemical and refining) operations, and those interested in ASME B31.8 for gas pipeline transportation systems.

Training Requirement:

"Hand's on practical sessions, equipment and software will be applied during the course if required and as per the client's request."

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client's learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- Introduction and history of ASME codes
- Scope and definitions
- Content, coverage and exclusions
- Qualification of materials and equipment
- Conditions for the reuse of pipe
- Welding general requirements
- Qualification of procedures and welders
- Preheat and stress relieving
- Piping system components and fabrication details
- Thermal expansion or contraction of piping materials
- Supports and anchorage for exposed and buried piping

DAY TWO:

- Design, installation, and testing
- Location classes for design and construction
- Steel piping systems, design requirements
- Design Factors (F) and class location
- Protection of pipelines and mains from hazards
- Cover, clearance, and casing requirements
- Installation of steel pipelines and mains
- Testing after construction
- Commissioning of facilities
- Other piping systems requirements
- Compressor station design
- Pipe-type and bottle-type holders for buried steel pipelines and mains

DAY THREE:

- Control and limiting of gas pressure
- Required spacing of valves
- Operating and maintenance procedures affecting the safety of gas transmission and distribution facilities
- Essential features of the emergency plan
- Prevention of accidental ignition
- Distribution piping maintenance
- Compressor station maintenance

- Odorization
- Uprating
- Corrosion control
- External corrosion control – buried pipelines
- Coating and cathode protection requirements
- Special considerations for high-temperature service

DAY FOUR:

- Offshore gas transmission
- Scope, intent, terms and definitions for offshore gas transmission
- Material specifications and conditions for the reuse and requalification of pipe
- Welding offshore pipelines welding procedure and welding process
- Inspection and tests for quality control of welds on piping systems
- Design, installation, and testing
- Loading classifications.
- Strength considerations
- Testing
- Pipeline maintenance
- Corrosion control of offshore pipelines
- External corrosion control and cathode protection

DAY FIVE:

- Sour gas service scope, intent terms and definitions
- Welding and inspection tests of sour gas pipelines
- Preheating and stress relieving
- Design, installation, and testing
- Pipeline maintenance
- Corrosion control of sour gas pipelines
- Location class and changes in number of buildings intended for human occupancy
- Review mandatory appendix K, M & N
- Course Conclusion
- POST-ASSESSMENT and EVALUATION

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

For training registrations or in-house enquiries, please contact:

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Training & Career Development Department