

Operation, Diagnostics and Maintenance of Equipment for Oil and Gas Production Training

Description

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Objectives

- Apply the requirements of the relevant industry standards and practices
- Understand the design and construction of rotating equipment
- Understand the design and construction of pressure vessels, piping systems, and aboveground atmospheric storage tanks
- Develop rotating and static plant into complete systems
- Develop an understanding of codes, standards, and Recommended Practices in process plant equipment and piping system design, construction and maintenance.
- Enable the good management of plant systems

Programme Outline

Rotating Equipment

- Pumps & Compressors
- Positive displacement
- Centrifugal action
- Pump & Compressor Performance
- Pump curves
- Compressor maps
- System curves
- Selection & Specification
- Fulfilling process requirements
- System integration

Static Plant

- Piping, Pipelines & Pressure Vessels

- ASME B31 codes for piping
- ASME BPVC VIII for pressure vessels
- Pressure relieving devices
- Above Ground Storage Tanks
- API 650 for ASTs
- AST construction
- General Construction Considerations
- Fabrication techniques
- Resource logistics
- Working with contractor

Materials & Construction

- Material Properties
- Physical properties
- Testing
- Material specification data
- Welding
- Techniques
- Qualification & procedures
- Approval & quality
- Inspection & Testing
- NDE techniques: VT, PT, ET, MP, RT, UT
- NDT techniques: hydrotest & pneumatic test

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System Design

- Process Flow Schemes & Process Engineering Flow Schemes
- Overview
- DEP requirements
- Process design & instrumentation
- Commissioning
- Preparatory checks
- Protocol development
- Startup/Shutdown/Handover
- Plant & Equipment Operability
- Operations consideration
- Maintenance considerations
- Specifications
- Procurement Requirements
- Material & Performance specifications
- Supporting Standards: regulatory & in-house
- Project schedule
- Measure the Success
- KPIs for the mechanical engineer
- Benchmarking