

MOL Pumps Maintenance & Overhauling (Flowserve) for Mechanical

Course general description:

This course aims to provide deep and advanced knowledge needed to cover installation, operation, maintenance, overhauling and troubleshooting situations for MOL Main Oil Line Flowserve pumps. Likely participants are all personnel who operate, manage, or are involved in, designing, specifying, selling, sourcing, installing, servicing and maintaining Flowserve MOL pumping equipment. The course qualification recognizes the ability to gain and – where relevant – apply a range of advanced knowledge and understanding on field applications.

This training course includes case studies applied on Flowserve pumps, "hands on" learning, and more are presented from a practical and realistic point of view.

Audience:

This course is designed for engineers, experienced maintenance technicians, operations supervisors, pump application engineers working on Main Oil Line Pumping. All personnel who operate, manage, or are involved in, designing, specifying, selling, sourcing, installing, servicing and maintaining Flowserve MOL pumping equipment can attend this course.

Course objectives:

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

1. Understand and apply basic MOL Flowserve pump principles
2. Properly maintain MOL Flowserve pumps and pump systems
3. Know how to operate MOL pump and the function of seals
4. Identify Pipeline Transportation Pumps
5. Read and apply MOL Flowserve pump curve charts
6. Identify and distinguish a "pump" from a "system" problems
7. Identify, correct and avoid cavitation problems
8. Maintain and troubleshoot mechanical seal
9. Know and apply the safety precautions when working with pump installation, operation, maintenance and troubleshooting
10. Test pump Performance

Course duration:

5 days

Course location:

Cairo-Dubai-Istanbul

Course contents:

Day-1

- Overview – Pretest
- Safety precautions when working with MOL Pumping system – SI Units
- Flowserve MOL Pump Classifications
- Crude oil fluid properties – density – viscosity – specific gravity - API
- Main line pump operating parameter
- Field Flowserve pump description and nomenclature

- Installation

<https://www.flowserve.com/sites/default/files/2016-07/fpd-8-e.pdf>

Day-2

- Pipeline System
- Valves and controls
- Start-up, operation and shutdown
- Priming and auxiliary supplies
- Starting the pump
- Operating checks
- Reading Flowserve Manuals
- Workshop 1

Day-3

- Flowserve Pump Maintenance
- Preventive Maintenance
- Maintenance schedule
- Spare parts
- Tools required
- Bearing
- Mechanical Seal and Packing
- Flowserve Seal less Pumps – Magnetic Pump
- Workshop 2

Day-4

- MOL Pump Overhauling
- Assembly and Disassembly
- Balancing
- Vibration Analysis
- Lubrication
- Predictive Maintenance
- Vibration Analysis
- Shaft Alignment
- Looseness & Unbalance repair
- Workshop 3 Diagnosis Pump Failure

Day-5

- Cavitation problems
- Corrosion problems
- Electrical and control issues
- Correctly Adjusting Packing
- Troubleshooting
- Faults
- Causes and remedies
- Course Conclusion
- Posttest

Methodology:

- 50% lectures & concepts
- 10% Videos
- 10% Case studies
- 10% Exercises
- 10% Discussions
- 10% Software (if applicable or examples)

Course code: (TEME029)