TUV / IICS 2.5 PUMP PRACTITIONER (OPERATION, MAINTENANCE & TROUBLESHOOTING)

COURSE DURATION: 5 DAYS (4 DAYS TRAINING + 1 DAY EXAM)

PURPOSE OF TRAINING

Participants will leave the training with specific knowledge to eliminate mysterious pump failures, improve the running time and service life on a population of industrial pumps.

LEARNING OBJECTIVE

- Apply and gain an in-depth knowledge on the design, selection, installation, performance and control of various types of industrial pumps, both centrifugal and positive-displacement.
- Identify the type of pumps, and determine the system hydraulics and characteristics.
- Understand pump installation requirements, mechanical seals, bearings and motors according to construction, functions and applications.
- Troubleshoot pump performance problems
- Understand Maintenance and Condition Monitoring Requirements.

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COURSE OUTLINE

DAY 1

- Introduction to pump
- Pump Categories and Classification
- Pump Terminology and Theory Centrifugal Pumps
- Pump Curves
- Characteristics
- Pump Hydraulics
- NPSH
- Viscosity Effects
- Cavitation Centrifugal Pump Types
- Single-Stage Pumps
- Multistage Pumps
- Split-Case Pumps
- Wastewater Pumps
- Submersible Pumps
- Borehole Pumps
- API Pump Categories

DAY 2

- Pump Installation and Alignment Mechanical Seal Components and Functions
- Balanced and Unbalanced Seals
- Seal Face Material Combinations
- Seal Performance and Seal Failures
- API Seal Plans Operation and Troubleshooting of Centrifugal Pumps
- Condition Monitoring of Pumps

DAY 3

- Positive Displacement Pumps
- Reciprocating and Rotary Types
- Maintenance of Pumps
- Bearings, Bearing Failure Modes
- Couplings
- Lubrication

WHO SHOULD ATTEND?

This class is designed for:

- Engineers
- Foreman & Supervisors
- Technicians
- Mill writes and Artisans
- Planners

COURSE DURATION

- 5 Days Training

(4 days training + 1 day exam)

DAILY SCHEDULE

- 8:30am - 5:30pm

ITEMS TO BRING

- Calculator
- Lots of Questions
- A "CAN-DO" Attitude

Stationeries such as pen and highlighter will be provided.

DAY 4

- Practical at site (morning session)
- API 610 and ASME Standards in relations to Pumps
- Application of the standards on Clean Water, Slurry and Sewage Pumps
- Testing and Inspection Approval according to the standards

DAY 5

- Assessment

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TRAINER'S PROFILE

N. BENJAMIN MQENEBE

Most recently Ntozelizwe Mqenebe is a Master Facilitator on Courses about Pressure Vessels, Gearboxes, Power Plants, RCA,RFCA, Pumps & Pipelines, Ball Mills, etc. He has offered this courses in South Africa and other neighbouring countries like Zimbabwe just to mention a few.

He is a former Senior Mechanical Engineer at ArcelorMittal South Africa, Newcastle Works. As the Senior Mechanical Engineer, he was responsible for combining philosophies and daily Maintenane & Reliability practices of the Sinter Plant to make sure that assets availability and utilization are maintained. He also worked at Umgeni Water as a Reliability Engineer and was responsible for the inception and alignment of the Department all over the organization. He implemented Umgeni Water CMMS (Maximo Software) and has taught Reliability Engineering classes.

Ntozelizwe has 12 years in the maintenance and reliability field were he has played several different roles. First as a Mechanical Engineer for E&PC where he was responsible for implementing acquisition procedures for Green and Brown field project on the mines. He later joined as a Reliability Engineer at Umgeni Water where he was responsible for implementing a comprehensive PdM program and continous improvements of after he worked for ArcelorMittal as the Senior Mechanical Engineer responsible for PdM and maintenance improvement process effort across the plant in Newcastle.

Ntozelizwe is well grounded in reliability and maintenance engineering topics with particular emphasis on CBM technologies to include advanced experience in Vibration Analysiss.

TECHNICAL QUALIFICATIONS

- ✓ Certified Maintenance and Reliability Professional (CMRP)
- ✓ Certified Plant Maintenance Manager (CPMM)
- ✓ Degree Engineering - University of Johannesburg
- ✓ Professional Engineer (ECSA)