

Training Title

Rotating Machinery Equipment Preventive & Predictive Maintenance

Training Duration

Preventive & Predictive Maintenance of Rotating Equipments	5	11-15 April	\$3,300	Dubai
Rotating machinery preventive and predictive maintenance	5	24-28 October	\$3,300	Abu Dhabi

5 Days

In any of the 5 star hotel. Exact venue will be informed later.

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.

Introduction

This is a five-day course on Rotary Machinery Preventive and Predictive Maintenance. Different maintenance strategies will be discussed; elements of each maintenance strategy, their advantages and disadvantages will be explored. The selection of the appropriate strategy that fit the mode of failure and results in the minimum time between repair and that leads to least down time and maintenance cost is one of the maintenance engineer duty that must be mastered. Tools and measurements involved in each maintenance strategy must also be recognized and deeply understood. To apply the above techniques effectively on the Rotary Machinery, one should be aware of their failure modes, and methods of troubleshooting. The above will applied on different type of Rotary Machinery like pumps, compressors, and Turbines.

Who Should Attend:

Engineers, technicians and managers responsible for selection, installation, machinery failure analysis, troubleshooting and maintenance of different rotary machines like pumps, compressors, fans, blowers, steam turbines, gas turbines will benefit from this course.

Course Contents:

The following topics will be covered in the course over five working days

Ch 1 Maintenance Strategies

Maintenance Strategies

- Corrective Maintenance**
- Breakdown Maintenance**
- Preventive Maintenance**
- Predictive Maintenance**
- Corrective Maintenance**

Effective Preventive Maintenance

- Planning & Scheduling**
- Mode of Failures**
- Coordination with Production**
- Opportunity Preventive Maintenance Activities**

Predictive Maintenance Techniques

- Vibration monitoring**
- Thermography**
- Tribology**
- Visual inspections**
- Ultrasonics**
- Process Parameters**

Ch 2 Causes of Machinery Failure

- Improper Specifications**
 - Improper Sizing**
- Material Deterioration**
 - Overstressing**
 - Material Corrosion**
 - Overheating**
 - Fatigue Failure**
 - Brittlement Failure**
- Misalignment**

Cold versus Hot Alignment

Alignment Tolerances

Imbalance

Causes of Imbalance

Level of Balancing

Vibration due to Imbalance

Off-design Operation

Range of Acceptable Operation

Limits of Operation

Controlling Systems

Loop Oil Systems

Bearings

Seals

Control Systems

Installation Problems

Piping Stresses

Ch 3 Root Cause and Troubleshooting

Failure Consequences

Failure Modes

Age-related Failure

Failure which are not age-related

The Failure Process

The Six Failure Patterns

Technical History Data

Failure Finding Task

Ch 4 Failure Prevention

Proper Specifications

Codes and Standards

Proper Operation

Protective and Safety Devices

Proper Training

Monitoring Systems

Maintenance Planning

Ch 5 Applications and Case Studies

Pumps

Fans and Blowers

Compressors

Steam Turbines

Gas Turbines

Case Study

