



## Implementing Effective Preventive and Predictive Maintenance Programmes Training

### Description

#### Introduction

Effective Planned & Predictive Maintenance are critical for a successful company and an integral part of maintenance management strategies such as RCM, RBM TPM, and even 6-Sigma. This comprehensive 5-day programme has been designed to benefit both qualified new professionals as well as experienced professionals who may be involved in the rollout of a comprehensive Maintenance system or auditing an existing system. It covers all the steps required in developing a successful Planning & Predictive Maintenance programme from system development until a well-managed Maintenance system is in place and operational.

#### Objectives

Leading industrial organizations are evolving away from reactive (“fix-it-when-it-breaks”) management into predictive, productive management (“anticipating, planning, and fix-it-before-it-breaks”). This evolution requires well-planned and executed actions on several fronts.

- Understand how world-class organizations solve common planning problems
- Improve productivity through use of better, more timely information
- Implement a practical and effective predictive maintenance effort
- Improve consistency and reliability of asset information
- Achieve more productive turnarounds
- Optimize preventive and predictive maintenance strategies

#### The Contents

##### Day 1 – The Need for Maintenance

- **Failure Mode Effect & Criticality Analysis (FMECA)**
  - Causes of Failures
  - Likelihood & Severity of Failure – Risk Analysis

- Reliability Centred Maintenance (RCM)
- **Optimisation of Maintenance Decisions**
  - Failure Pattern Identification
  - Statistical Analysis of Failures
  - Weibull Analysis
- **Zero Base Budgeting**
  - Define the production requirement
  - Define the maintenance requirement

## Day 2 – Developing the CMMS

- **Database Construction**
  - Installed Asset Base
  - Hierarchical Structure
  - Procedures and Plans
- **Resources**
  - Dedicated Manpower
  - Contractors
  - Specialist Tools
- **Maintenance Strategies**
  - Centralised/Decentralised
  - Life/Emergency/Corrective/Planned
  - Planned & Predictive

## Day 3 – The Planning Function

- **Roles & Responsibilities**
  - The Planners
  - Job Initiators
  - Maintenance Trades
- **Job Planning**
  - Planning Corrective Work
  - Integrate Planning with Procedures
  - Resource Levelling
- **Scheduling**
  - Long Term Scheduling with Production
  - Medium & Short Term Scheduling
  - Planning Department Interfaces

## Day 4 – Predictive Maintenance

- **Potential Failure Analysis (PFA)**
  - Integration of PFA with FMECA & RCM
  - Understanding the P-F Interval
  - Decide which Technologies to Apply
- **Vibration Analysis**
  - Detectable Faults
  - Setup Parameters

- Monitoring & Protection
- On-Line or Off-Line
- **Supporting Technologies**
  - Infrared Thermography
  - Passive Ultrasonics
  - Oil Analysis

## Day 5 – Control of the Maintenance Process

- **CMMS Integration**
  - Predictive Maintenance Interface
  - Optimising PM Kit Usage with PdM
  - Operational planning
- **Reporting**
  - Monthly PM & PdM reports for Management
  - Financial Feedback Reports
  - Budget Control
- **Key Performance Indicators**
  - Reliability & statistics – MTBF, Reliability etc.
  - Work request backlog analysis
  - Customer feedback analysis

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