



Implementing Effective Preventive And Predictive Maintenance



Introduction:

Effectively planned Preventive & Predictive Maintenance which is integrated with the workflow is 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 training seminar 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 & Asset Management process or auditing an existing process. It covers all the steps required in developing a successful Preventive & Predictive Maintenance Program from failure behavior and finding the right preventive maintenance task until a well-managed preventive & predictive maintenance program, fully integrated with the workflow and the CMMS.

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

This training seminar will highlight:

- Preventive & predictive maintenance strategies and their position within Asset Management
- Risk Based Maintenance
- Maintenance & reliability engineering best practices
- Best practices in planning and scheduling (workflow management)
- The application of CMMS
- Monitoring & managing performance with Key Performance Indicators (KPI's)
- Continuous improvement aspects

Training Methodology:

The training seminar will be conducted along interactive workshop principles. There will be a variance of lectures and practical exercises. Experiences from different areas will be discussed. There will be many opportunities for discussion and sharing experiences.

Who Should Attend?

This training seminar is suitable to a wide range of professionals but will greatly benefit:

- Maintenance Managers & Supervisors
- Personnel designated as planners, or identified to become planners
- Predictive Maintenance Technicians & Supervisors
- Key leaders from each Maintenance craft
- Maintenance & Reliability engineers
- Materials Management Managers/Supervisors
- CMMS key users

Objectives:

At the end of this training seminar, you will learn to:

- 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
- Optimize preventive and predictive maintenance strategies

SEMINAR OUTLINE:

DAY 1

The Need for Maintenance

- **Maintenance & Asset Management as a business process**
- **Risk Based Maintenance (RBM)**
 - ❖ Causes of Failure
 - ❖ Likelihood & Severity of Failure - Risk Analysis
 - ❖ Failure Mode Effect & Criticality Analysis (FMECA)
 - ❖ Choosing the (preventive) maintenance tasks
- **Optimization 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 & structure
- CMMS & workflow
- CMMS & Maintenance Strategies
- Asset register
- Configuration management

DAY 3

The Planning Function

- The maintenance workflow and how it relates to the preventive maintenance strategy
- Roles & responsibilities in work preparation, planning and scheduling
- Principles of work preparation & planning
- Principles of scheduling
- Network planning

DAY 4

Predictive Maintenance

- **Potential Failure Analysis (PFA)**
 - ❖ Integration of PFA with FMECA & RBM
 - ❖ Understanding the P-F Interval
 - ❖ Decide which Technologies to Apply
- **Predictive maintenance technologies**
 - ❖ Vibration analysis
 - ❖ Visual inspection
 - ❖ Infrared Thermography
 - ❖ Temperature sensitive labels
 - ❖ Megger tests
 - ❖ Ultrasonics

❖ Oil analysis

DAY 5

Control of the Maintenance Process

- Implementation stages of preventive & predictive maintenance strategies
- CMMS integration
- Reporting – use of (Key) Performance Indicators
- Case study