

Course Name: Predictive and Preventive Maintenance

Reference Code : TEC 436

Description:

This training programme is structured and designed to help assist both qualified new professionals and the experienced professionals who are involved in the rollout of a maintenance program or auditing of an existing system. This course highlights all the relevant aspects needed in the development of a successful and predictive maintenance program unless and until a well-developed and well-managed maintenance program or system is functional.

This course introduces students to various types of principles and practices used within industry for predictive and preventative maintenance of equipment. Topics will include: safety, housekeeping, filter replacement, oil analysis, lubricating, vibration analysis, shaft alignment, balancing, motor current analysis, infrared and ultrasonic analysis, and troubleshooting.

Course Objective:

By the end of the course, delegates will gain knowledge and skills to:

- Develop, implement and supervise the preventive and predictive maintenance program
- Implement the latest techniques and management styles of leading facilities and maintenance management practices
- Optimize the effectiveness of maintenance, by using sophisticated techniques and methods, to economize time, money and resources
- Prevent and limit equipment failures, and rework to improve the equipment's overall effectiveness and reliability
- Decrease downtime and increase profit for their organization
- Enhance the reliability and consistency of asset information
- Upgrade the predictive and preventive strategies for maintenance
- Execute an effective maintenance effort
- Enhance the productivity by employing more timely and better information
- Attain more useful and effective turnarounds
- Acknowledge the ways in which the top-notch organizations resolve the common issues associated with planning

Programme Methodology:

The course is interactive and is comprised of lectures, case studies, technical process learning and supplemental discussions related to various industries and the challenges of implementation.

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Who Should attend?

Personnel who can attend this course are:

- Planners
- Supervisors
- Maintenance managers
- Predictive maintenance technicians
- Key operations supervisors
- CMMS administrator
- Materials management manager

Course Outline:

Module I

- Maintenance: The Need
- The introduction of Failure Mode Effect & Criticality Analysis (FMECA)
- Failures causes
- Analysis of risk: Severity of failure and likelihood
- Introduction and Overview: Reliability Centered Maintenance (RCM)
- Maintenance Decisions: The Optimization procedure
- Identification of the failure pattern
- Failures: The statistical analysis
- The Analysis of Weibull
- Budgeting at a zero base
- Production requirement: The definition
- Maintenance requirement: The definition

Module II

- CMMS: Development
- Construction of the database
- Asset Base installation
- The concept of Hierarchical Structure
- Plans and procedures
- Resources overview
- The description: Dedicated Manpower
- Contractors overview
- Specialist Tools Analysis
- The Strategies of maintenance
- An Overview of Centralised/Decentralised
- Planned/corrective/emergency/life concept
- Predictive and planned: An overview

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Module III

- The Function of planning
- The essential Roles & Responsibilities
- The Planners description
- The overview of Job Initiators
- Maintenance Trades: An overview
- Description: Job Planning
- The concept of Planning Corrective Work
- Description: Integration of Planning with Procedures
- Resource Levelling: The concept
- Scheduling overview
- The concept of Long Term Scheduling with Production
- An Overview of Short and medium Term Scheduling
- Interfaces for planning department: An overview

Module IV

- Introduction to Predictive Maintenance
- The concept of Potential Failure Analysis (PFA)
- Understanding the concept of Integration of PFA with FMECA & RCM
- Acknowledgement of P-F Interval
- Determine the Technologies to Apply
- Analysis of vibration
- An Overview of the Detectable Faults
- Description: Setup Parameters
- Protection and monitoring overview
- Description: On-Line or Off-Line
- Supporting Technologies
- Infrared Thermography: Overview
- Passive Ultrasonics: Introduction
- Understanding Oil Analysis

Module V

- Introduction to the Maintenance Process control
- Integration of CMMS
- The concept of Predictive Maintenance Interface
- PM Kit Usage with PdM: The optimization process
- The concept of Operational planning
- Reporting overview
- Management of Monthly PM & PdM reports
- The Reports for financial feedback
- The overview of Budget Control
- Key Performance Indicators: An overview
- Statistics and reliability: MTBF, Reliability etc
- Backlog analysis for work request
- Feedback analysis for customers

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Course Duration:
5 days

Date

Time: 08:00 AM -03:00 PM

Numbers of hours: 30 Hours

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