



Maintenance & Reliability Management

# Proactive Maintenance: A New Era Strategy

## Course Introduction

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Proactive maintenance is a structured approach designed to develop an effective maintenance program for critical equipment, aiming to enhance system availability and minimize maintenance costs by prioritizing the most essential functions of the system.

The processes taught in this training program will enable participants to plan and control maintenance activities, leading to direct improvements in asset performance.

This training program offers a logical framework for resolving problems, helping participants accurately identify deviations from acceptable performance standards, pinpoint the root causes of equipment failures, and develop cost-effective corrective actions to prevent future issues.

The training program begins by establishing the core principles of risk-based proactive maintenance and then builds on these foundations through a blend of advanced presentation techniques, interactive discussions with instructors, and structured syndicate and individual exercises.

## Target Audience

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- Maintenance & Reliability Engineers – Shifting from reactive to proactive strategies.
- Maintenance Managers & Supervisors – Implementing predictive and preventive maintenance.
- Plant & Facility Managers – Enhancing asset longevity and performance.
- Operations & Production Managers – Reducing downtime through strategic maintenance.
- Quality & Safety Professionals – Ensuring compliance and risk mitigation.

## Learning Objectives

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- Acquire knowledge about repair, inspection, and diagnosis

- Identify RCA and RCM techniques.
- Explore systems failure analysis methods and techniques.
- Demonstrate RCFA as a business improvement proactive technique.
- Understand how to prioritize failure events to analyses, preserve failure data, and order a failure analysis.
- Develop and implement effective and efficient root cause analysis programs,
- Recognize How to make RCA a structured, team based, analytical approach,
- Practice the problem solving process; Problem statement, data collection, defines fact, identify possible causes, and identify true root cause.
- Apply and gain an in-depth knowledge of Reliability Centered Maintenance (RCM).
- Understand how to execute design, application, operation and maintenance review.
- Apply project management frameworks and techniques to effectively manage key maintenance activities and stoppages

## Course Outline

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### • 01 DAY ONE

Maintenance Strategy .... Why to update?

- Industry revolutions and maintenance evolution
- The role of maintenance in organization productivity
- Maintenance and Profitability
- Maintenance definition
- Modern maintenance cycle
- Types of maintenance
- Maintenance vision and mission
- Maintenance goals and objectives
- Maintenance policies and strategies
- Maintenance planning and management
- Group Quiz "Maintenance Policies"

### • 02 DAY TWO

**Maintenance basics and definitions**

- Reactive Vs Proactive maintenance
- Planned Vs Unplanned maintenance
- World class maintenance
- Reliability
- Work identification
- Preventive Maintenance (PM)
- Predictive Maintenance (PdM)
- Maintenance Planning
- Maintenance Scheduling
- Work Execution
- Work Order Close out
- Maintenance Control and Analysis
- **Game:** "The maintenance terms"

### • 03 DAY THREE

#### **Proactive Maintenance ..... a Risk based strategy**

- Repair, inspection, and diagnosis
- Failure definition
- Potential Failure (P-F Curve)
- Failure prevention
- Maintenance policy calculation /optimization
- Failure modes, effects and consequences.
- Root cause analysis (RCA).
- Reliability Centered Maintenance (RCM)
- **Quiz;** Failure Concept and ISO terminology

### • 04 DAY FOUR

#### **Proactive maintenance planning**

#### **The work Order (W.O.) system**

- W.O. Cycle and Flow
- W.O. Types
- W.O. Priority
- W.O. Status
- W.O. form

## **Proactive maintenance planning process**

- Create a job plan
- Proactive maintenance scheduling
- Control by using leading and lagging KPIs

**Activity- Role Play; "Planning and Scheduling workflow process"**

**Discussion Session ... "Needs, importance, contents and responsibility of job plan"**

## **• 05 DAY FIVE**

### **Root Cause failure Analysis (RCFA): The concept**

- Root Cause Analysis Defined
- The Root System; Physical, Human, and Latent root Causes
- Root Cause identification
- The Loss Causation Model
- RCA; as a problem solving technique
- RCA; Objective, purpose, and effectiveness.
- Personal requirement
- When to use?
- Prioritization
- Process of RCA
- RCA general principles
- How to make RCFA a successful business improvement strategy?
- Case study; Submersible pump repetitive failure – 5 Whys.
- Exercise; delegate case RCFA

## **Reliability Centered Maintenance (RCM)**

- Definitions & concepts
- Benefit of RCM
- RCM features
- Failure patterns
- RCM phases

#### RCM implementation

- Defining system
- Defining Functions and functional Failures
- Conducting FMECA
- Selecting a failure management strategy
- Documenting RCM Analysis
- Course review, Q&A

## Confirmed Sessions

FROM	TO	DURATION	FEES	LOCATION
May 5, 2025	May 9, 2025	5 days	4250.00 \$	UAE - Abu Dhabi
Sept. 15, 2025	Sept. 19, 2025	5 days	4950.00 \$	Netherlands - Amsterdam
Nov. 3, 2025	Nov. 7, 2025	5 days	4250.00 \$	UAE - Dubai