

IMPROVING EQUIPMENT RELIABILITY & PLANT EFFICIENCY THROUGH PM OPTIMIZATION

“Enhancing Maintenance Strategies to Maximize Asset Uptime and Operational Efficiency”

Schedule

Date	Venue	Fees (Face-to-Face)
26 - 27 Feb 2026	Kuala Lumpur, Malaysia	USD 1995 per delegate

Introduction

Preventive Maintenance (PM) is a critical element in achieving high equipment reliability and operational excellence. However, many PM programs are either underdeveloped or overloaded—resulting in excessive costs, missed failures, and unplanned downtime. Optimizing PM activities ensures that the right maintenance is performed at the right time, improving both asset performance and plant efficiency.

This practical 2-day course provides participants with a structured approach to evaluate, streamline, and enhance preventive maintenance strategies. The focus is on aligning PM tasks with equipment criticality, failure modes, and operational priorities to achieve measurable improvements in reliability, availability, and cost-effectiveness.

Objectives

By the end of this course, participants will be able to:

- Understand the principles and objectives of PM optimization
- Analyze failure modes and critical equipment to prioritize PM tasks
- Eliminate non-value-adding activities and improve task frequency
- Integrate reliability-centered maintenance (RCM) principles
- Measure the impact of PM improvements on performance and cost

Why Attend

- Learn a step-by-step method to evaluate and improve PM plans
- Reduce maintenance costs and unplanned failures
- Increase asset availability and productivity
- Eliminate reactive maintenance and guesswork
- Align PM tasks with actual risks and equipment behavior

Target Audience

This program is designed for:

- Maintenance, reliability, and asset management professionals
- Maintenance planners and engineers
- Plant and operations managers
- TPM and RCM coordinators
- Anyone involved in equipment care and plant performance

Individual Benefits

Key competencies that will be developed include:

- Ability to critically review and optimize PM job plans
- Understanding of maintenance strategies across asset lifecycles
- Skills in applying failure mode analysis and criticality ranking
- Capability to link PM to business performance goals
- Improved communication with operations and planning teams

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Reduced maintenance workload and better resource utilization
- More reliable equipment and fewer unexpected breakdowns
- Optimized use of spares and maintenance labor
- Improved OEE (Overall Equipment Effectiveness) and plant KPIs
- A culture of proactive, risk-based maintenance planning

Instructional Methodology

The course follows a blended learning approach combining theory with practice:

- Strategy Briefings - PM optimization concepts, models, and frameworks
- Case Studies - Examples from plants with successful PM programs
- Workshops - Task analysis, maintenance review, and strategy mapping
- Peer Exchange - Common barriers and quick-win strategies
- Tools - PM optimization checklists, RCM logic trees, FMEA templates

Course Outline

DETAILED 2-DAY COURSE OUTLINE

Training Hours: 07:30 AM – 03:30 PM **Daily Format:** 3-4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Foundations of PM Optimization

- Module 1: Understanding Preventive Maintenance (07:30 – 09:30) • Types of maintenance: PM, PdM, CM, CBM • Objectives and challenges in traditional PM programs • Why PM programs fail to deliver value
- Module 2: PM Strategy Development (09:45 – 11:15) • Aligning PM with business and operational goals • Maintenance strategy hierarchy and cost-risk balance • Review of ISO 55000 and reliability best practices
- Module 3: Equipment Criticality and FMEA (11:30 – 01:00) • Criticality ranking and asset prioritization • Failure Mode and Effects Analysis (FMEA) • Linking critical failure modes to PM tasks
- Module 4: Workshop – Criticality and Failure Mapping (02:00 – 03:30) • Apply FMEA to a selected piece of plant equipment

Day 2: Practical PM Review and Optimization

- Module 1: Reviewing Existing PM Tasks (07:30 – 09:30) • Task justification and duplication analysis • Frequency rationalization and PM workload balancing • Maintenance intervals and inspection effectiveness
- Module 2: Reliability-Centered Maintenance (RCM) Concepts (09:45 – 11:15) • Functional failure and maintenance logic • RCM decision tree and task selection • RCM vs. PM review vs. risk-based inspection (RBI)
- Module 3: PM Improvement Action Plan (11:30 – 01:00) • Maintenance performance KPIs and tracking • Continuous improvement loop for PM programs • Audit and communication with stakeholders
- Module 4: Final Workshop – PM Optimization Simulation (02:00 – 03:30) • Teams evaluate a sample PM plan and present recommended changes

Certification

Participants will receive a Certificate of Completion in Improving Equipment Reliability & Plant Efficiency Through PM Optimization, validating their ability to review, redesign, and enhance preventive maintenance programs for measurable reliability gains.

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