MAWA EVENTS

Address: No. 857, Block A2. Leisure Commerce Square - No 9., 46150 Petaling Jaya, Selangor, Malaysia

Phone: +601116373203 | **Email:** info@mawaevents.net

RELIABILITY-CENTERED MAINTENANCE (RCM): DRIVING PERFORMANCE AND EFFICIENCY

"Optimizing Asset Reliability through Strategic Maintenance Planning and Risk-Based Decision-Making"

Schedule

Date	Venue	Fees (Face-to-Face)
21 – 25 Sep 2026	London – UK	USD 3495 per delegate

► **Available delivery methods:** Face-to-Face & Online Training

Introduction

In high-performance industrial environments, traditional maintenance methods often fall short in preventing failures and controlling costs. Reliability-Centered Maintenance (RCM) provides a structured, systematic approach to determine the most effective maintenance strategies for each asset based on risk, function, and consequence of failure.

This comprehensive 5-day training course empowers maintenance and reliability professionals to implement RCM programs that balance safety, reliability, and cost. Through real-world case studies and hands-on analysis, participants will learn to apply RCM principles to reduce downtime, extend asset life, and improve operational efficiency.

Objectives

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

- Understand the principles and process of Reliability-Centered Maintenance (RCM)
- Apply RCM logic to identify functional failures and appropriate maintenance tasks
- Develop FMEA and failure modes analysis for critical equipment
- Prioritize maintenance based on risk and system function
- Implement and sustain an RCM program aligned with organizational goals

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Why Attend

- Learn how to identify maintenance tasks that provide the greatest reliability impact
- Eliminate unnecessary PM tasks and reduce maintenance waste
- Improve asset uptime and availability through strategic maintenance planning
- Gain practical experience in applying RCM analysis to real equipment scenarios
- Access templates and tools for developing and deploying RCM frameworks

Target Audience

This program is designed for:

- Maintenance engineers, reliability engineers, and asset managers
- Maintenance planners and supervisors
- Plant managers and operations leaders
- Quality assurance and risk management professionals
- Engineering consultants and project engineers

Individual Benefits

Key competencies that will be developed include:

- Proficiency in RCM decision logic and analysis techniques
- Skills in identifying failure modes and evaluating maintenance strategies
- Capability to prioritize maintenance based on criticality and risk
- Understanding of how to use FMEA and RCFA as RCM tools
- Experience in documenting and communicating RCM findings and plans

Organizational Benefits

Upon completing the training course, participants will demonstrate:

- Improved maintenance efficiency and reduced operational risk
- Reduction of non-value-adding maintenance work
- Better alignment of maintenance efforts with business and safety objectives
- Enhanced collaboration between operations, engineering, and maintenance teams
- Increased return on maintenance investment through data-driven strategies

Instructional Methodology

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

- Strategy Briefings – Core principles of RCM, failure modes, and maintenance optimization
- Case Studies – Industry examples of successful RCM application and lessons learned
- Workshops – Hands-on sessions in FMEA development, maintenance task selection, and RCM process mapping
- Peer Exchange – Discussion of field challenges, equipment case studies, and improvement opportunities
- Tools – RCM decision logic templates, criticality ranking tools, and maintenance task evaluation checklists

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Course Outline

DETAILED 5-DAY COURSE OUTLINE

Training Hours: 7:30 AM – 3:30 PM Daily Format: 3–4 Learning Modules | Coffee breaks: 09:30 & 11:15 | Lunch Buffet: 01:00 – 02:00

Day 1: Introduction to RCM and Maintenance Strategies

- Module 1: Evolution of Maintenance Strategies (07:30 – 09:30) • Reactive, preventive, predictive, and proactive maintenance models • The role of RCM in asset management and reliability improvement • RCM standards and industry frameworks
- Module 2: Principles of RCM (09:45 – 11:15) • RCM definitions and history • Overview of RCM process flow and objectives • The seven basic questions of RCM
- Module 3: Functions and Functional Failures (11:30 – 01:00) • Defining asset functions and performance standards • Identifying functional failures and performance degradation • Group exercise on functional mapping
- Module 4: Workshop – Building a Function-Failure Matrix (02:00 – 03:30) • Step-by-step development of asset function breakdown • Documentation of failure expectations • Review and group feedback

Day 2: Failure Modes, Effects, and Consequences

- Module 1: Failure Mode and Effects Analysis (FMEA) (07:30 – 09:30) • What can go wrong? Understanding failure modes • FMEA process and ranking criteria • Identifying causes and effects of failure
- Module 2: Consequence Evaluation and Risk Prioritization (09:45 – 11:15) • Safety, environmental, operational, and non-operational consequences • Ranking failure impacts and determining criticality • Risk-based maintenance planning
- Module 3: Selecting the Right Maintenance Strategy (11:30 – 01:00) • Task selection: on-condition, scheduled, failure-finding, redesign • Decision logic and RCM worksheet application • Examples from rotating and static equipment
- Module 4: Workshop – FMEA & Maintenance Task Selection (02:00 – 03:30) • Applying FMEA to a sample system • Evaluating and selecting appropriate maintenance actions • Team presentations

Day 3: Implementing and Sustaining RCM Programs

- Module 1: RCM Implementation Roadmap (07:30 – 09:30) • Building a business case and securing leadership support • Defining scope and asset hierarchy • Training and cross-functional team formation
- Module 2: Integrating RCM with Existing Systems (09:45 – 11:15) • Linking RCM outputs with CMMS and work order systems • Updating maintenance task lists and PM schedules • Creating a culture of reliability
- Module 3: Documentation and Communication (11:30 – 01:00) • Creating RCM reports and recommendations • Communicating outcomes to stakeholders • Managing data and revision cycles
- Module 4: Workshop – Developing an RCM Implementation Plan (02:00 – 03:30) • Mapping RCM rollout for a facility or asset group • Identifying quick wins and long-term goals • Peer review of implementation plans

Day 4: RCM Tools and Analytical Techniques

- Module 1: RCFA and Reliability Analysis Tools (07:30 – 09:30) • Root cause failure analysis (RCFA) integration • Fault tree analysis (FTA) and event tree techniques • Reliability data sources and databases
- Module 2: Reliability Metrics and Performance Indicators (09:45 – 11:15) • MTBF, MTTR, and availability • KPI dashboards and continuous improvement • Visualizing reliability trends
- Module 3: Auditing and Validating RCM Effectiveness (11:30 – 01:00) • Audit techniques for RCM processes • Evaluating success: reliability gains, cost reduction, safety impact • Feedback loops for continuous refinement
- Module 4: Workshop – Case Study Review and Discussion (02:00 – 03:30) • Analysis of RCM success and failure cases • Lessons learned and process improvement • Collaborative group feedback

Day 5: Final Integration and Review

- Module 1: Cross-Functional Collaboration and Change Management (07:30 – 09:30) • Engaging operations, engineering, and maintenance in RCM • Overcoming resistance and fostering ownership • Sustainability through leadership support

- Module 2: Advanced Topics and Trends in RCM (09:45 – 11:15) • AI and digital twins in reliability management • Predictive analytics and machine learning in maintenance • Cloud-based RCM platforms and integration
- Module 3: Final Assessment and Action Planning (11:30 – 01:00) • Course review and key takeaways • Creating individual RCM action plans • Personal commitments to improvement
- Module 4: Certification and Closing (02:00 – 03:30) • Knowledge check and participant presentations • Feedback session • Certification award and farewell

Certification

Participants will receive a Certificate of Completion in Reliability-Centered Maintenance (RCM), validating their expertise in designing, applying, and sustaining RCM strategies to enhance asset performance and maintenance efficiency.

Why Choose MAWA Events

- **Global Expertise:** More than 17 years of experience in professional training and consulting.
- **Industry-Leading Faculty:** Courses delivered by seasoned professionals with hands-on experience.
- **Practical Insights:** Learn to turn theory into actionable strategies for real-world business impact.
- **Client-Focused Solutions:** Customized programs designed to achieve your organisation’s unique goals.

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