



 **VIRTUAL**
TRAINING

25 – 29 April 2022

MASTERCLASS

Maintenance & Reliability
Best Practices

EXPERT PROFILE

Course Leader:
Ricky Smith
CMRP, CMRT, CRL

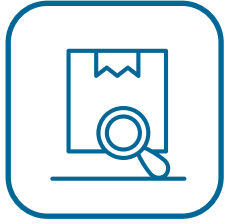
Ricky Smith is a well-known Maintenance and Reliability book author, consultant, and best practices educator worldwide. Authoring such books as “Rules of Thumb for Maintenance and Reliability Engineers”, “Industrial Machinery Repair”, “Lean Maintenance”, “Failure Reporting Made Simple” and many more.

Ricky has over 30 years’ experience working as a Maintenance and Reliability Professional for companies/organizations such as US Army, Exxon Company USA, Alcoa Mt Holly, Kendall Company, and Life Cycle Engineering. In addition, Ricky worked as a Maintenance Consultant/Educator with hundreds of companies in over 30 countries world-wide.

Ricky is a Certified Maintenance and Reliability Professional (CMRP), a Certified Maintenance and Reliability Technician (CMRT) and a Certified Reliability Leader (CRL). Graduated from the University of Georgia and Trident Technical College. Ricky worked for one of three plants in the world every certified as achieving “World Class Maintenance” and is commonly making the statement, World Class Production thru World Class Maintenance (Alcoa, Mt Holly)

Some of the clients Ricky has helped with:

- ArcelorMittal Steel
- Gallatin Steel
- Georgia-Pacific Corp
- Perdue Farms
- Fontana
- US Department of State
- US Army
- Saudi Aramco
- Oman Petroleum
- Gold Corp (Canada)
- Charleston Public Works
- Reliance (India)
- Life Cycle Engineering (globally)
- Irving Oil
- New-Indy Paper



Overview of the course

- ◆ The workshop course is a 20 hour long instruction course, spread out over either 5 days, during a single week, or 10 weekends, if the weekend option is chosen.
- ◆ The course gives attendees an overview of the currently best practices of Maintenance and Reliability, from the point of view of managing all the processes involved.
- ◆ The course covers topics such as Asset Management, as defined by ISO 55000, the curriculum of the European Federation of National Maintenance Societies for certified Maintenance Experts in Maintenance Management, and the fundamental library of knowledge of the Society of Maintenance and Reliability Practitioners.
- ◆ Topics covered range from initial capital project planning, through procurement, sourcing, materials management, operations and maintenance, as well as scrapping.
- ◆ The workshop emphasizes Work Management, Preventive and Predictive Maintenance, setting up the overall organization, and the metrics to support world-class reliability and maintenance practices.
- ◆ The course is built on real-world knowledge from improving operations in industry in over 40 countries. It is one step forward in creating leaders in the Maintenance, Reliability and Asset management sector who are recognized all over the world.



Learning Objectives

Improve your understanding of the best practices of Maintenance and Reliability:

- ◆ Learn how to bring together various tools and International standards for Asset Management to support your journey.
- ◆ Identify and define opportunities for implementing best practices at your own workplace.
- ◆ Learn and understand the relations between the body of knowledge of the SMRP, the Institute of Asset Management, ISO 55000, and other organizations.
- ◆ Identify and define opportunities for implementing best practices at your own workplace.
- ◆ Develop a method to apply the daily pillars into your daily work life.



Who should attend?

The course is designed specifically for individuals participating in or aspiring to the following :

- ◆ Production and Reliability Managers and Engineers & leaders
- ◆ Mechanical, Electrical, Production or Project Engineers
- ◆ Construction/Contractor Managers and Supervisors
- ◆ Maintenance Managers, Supervisors, Planners and Schedulers
- ◆ Materials Management Managers/Supervisors
- ◆ CMMS Administrator or Key Users
- ◆ Maintenance Engineers (Functional and Reliability)

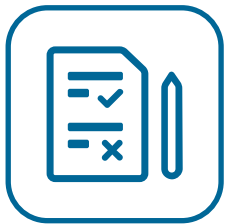


Course Format

This course is an active exchange between attendees and the instructor, using actual examples and exercises that are directly applicable to the body of knowledge:

- ◆ Approximately 45% of time is spent on the core instructional presentation.
- ◆ Approximately 55% of the time is spent on exercises, discussions and direct application examples.

The instructor and participants have an ongoing dialogue to ensure that concepts and methods taught are retained and can be put into use by the participants.



Pre and Post Course Assessments

Each participant will complete a pre-course assessment to gauge their current levels of knowledge and experience. At the conclusion of the course, participants will then complete a post-course assessment to ensure the material was presented effectively.

Skills you will master in this world-class Maintenance & Reliability Training :

Asset Management, Standards, Policies and Stakeholders

Applying proven, current methods and new data-driven analytical technologies to support optimum manufacturing process

Key Performance Indicators, Business Goals and Reliability Goals

Covering how to translate business goals into maintenance and reliability goals that support an organization's business results

Leadership, Organization, and Skills

Structuring groups and organizations to allow for an effective operational culture. Leadership principles, change management, and skills development

Equipment Reliability

Assessing capabilities of equipment and processes used to select and apply the most appropriate maintenance practices to ensure a safe and cost-effective delivery

Manufacturing Process Reliability

Evaluating process improvement tools and applying Reliability and Best Practices to Manufacturing Processes

Work Management

Focusing on the skills used to get maintenance and reliability work done, including planning and scheduling, and quality assurance

Materials Management

Procurement, supply chain, logistics and warehousing practices that support best practices for reliability

IoT, Industry 4.0 and Computer Systems

Computerized Maintenance Management Systems, Interactions with ERP systems and DCS systems, Asset Health Databases, Considerations for moves to Industry 4.0

Capital Projects Excellence

Focuses on the special case of Turnaround Management within the overall Work Management processes

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PROGRAM OUTLINE

DAY ONE

MODULE 1 : Asset Management, Standards, Policies and Stakeholders

- Standards, Information Guides, and Benchmarking
- Asset Management
- Stakeholders

MODULE 2 : Key Performance Indicators, Business Goals and Reliability Goals

- Key Performance Indicators
- Performance Measurements
- What is Manufacturing Reliability
- Process Reliability
- Design Reliability
- Reliability provided by Maintenance Departments

MODULE 3 : Leadership, Organization, and Skills

- Developing Teams
- Organizational Structure
- Roles and Responsibilities
- Reward Structure
- Skills Development and Training
- Leaders and Managers
- Change Management in Practice

DAY TWO

MODULE 4 : Equipment Reliability

- Inherent Reliability and Best Attainable
- Installation Practices and Precision Maintenance
- Calculating Reliability
- Analyzing Reliability
- Identifying Where to Focus
- MTBF, MTTR, MTBM, Weibull
- Strategies that reduce downtime
- Preventive Maintenance Strategies
- Predictive Maintenance

MODULE 5 : Manufacturing Process Reliability

- Reliability of Processes versus Equipment
- Solving Reliability Issues
- Lean approach to problem-solving
- Bottleneck analysis and Theory of Constraints
- Other Process Improvement Methods and Root Cause Analysis
- Root Cause Analysis Exercise
- Safety in Focus

DAY THREE

MODULE 6 : Work Management

- Identification of Work
- Prioritization
- Planning
- Scheduling
- Supervising
- Executing
- Closing Out and Analyzing

MODULE 7 : Materials Management

- Procurement
- Logistics
- Warehousing Practices
- Leadtime's/Re-Order Points, and Economic Order
- Quantity
- Kitting
- Staging

MODULE 8 : IoT, Industry 4.0 and Computer Systems

- Computerized Maintenance Management Systems
- Interactions with ERP systems and DCS systems
- Asset Health Databases
- Considerations for moves to Industry 4.0

DAY FOUR

MODULE 9 : Capital Projects Excellence

- Difference between the Capital Projects Role and the Operations and Maintenance Role
- Navigating possible conflicts with Operations and Maintenance Life Cycle Cost
- Optimizing Life Cycle Profitability

MODULE 10 : Turnaround Management

- Turnaround Management
- Turnaround Countdown Processes
- Strategies to Control Turnarounds

MODULE 11 : Management and Business

- Overview
- Performance Measurements and KPI's
- Change Management Theory and Practice
- Translating Asset Management Goals to Reliability and Maintenance
- Group exercise
- Individual exercises

DAY FIVE**MODULE 12 : Brownfield projects and existing facilities**

- Improving the performance of an existing facility
- Specific considerations for green field projects
- Balancing requirements

CERTIFICATE**Participants will receive a certificate of attendance for the course.**

If attendees choose the option to be registered for a Certified Maintenance and Reliability Practitioner, Certified Maintenance and Reliability Technician examinations, they will get further instructions and support to register to take the exam at any of the hundreds of available Pearson Vue test centers approved by the Society of Maintenance and Reliability Professionals.

The CMRP certification program is the only ANSI (American National Standards Institute) accredited certification program for Reliability and Maintenance practices and is aimed at people managing processes within the field, as well as Maintenance and Reliability Engineers.

The CMRT certification program aimed at Technicians that wish to combine their knowledge of on technical skills to current best practices for more information on the respective certifications can be found at the website of the owner of the certification programs, the Society of Maintenance and Reliability Practitioners at www.smrp.org.

For Registration Please Contact:
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