



**MasterClass -  
Maintenance and Reliability Best Practices  
plus SMRP Body of Knowledge  
8:30am - 5:00pm  
May 28-30, 2024**



**Instructor: Ricky Smith, CMRP, CMRT  
Ricky has been a CMRP Since 2003.**

**If you are looking to become a CMRP then this workshop is for you. Earning a CMRP certificate validates your skills and experience as a maintenance professional. In addition, it sets you apart from other maintenance professionals by signifying your professional excellence in the maintenance industry.**

**The CMRP program is the leading credential for certifying the knowledge, skills and abilities of maintenance, reliability and physical asset management professionals.**

**The CMRP exam is a thorough test of a broad scope of expertise measured against the universal standard. It was developed to assess professionals' aptitude within the five pillars of the SMRP Body of Knowledge, which include business and management, manufacturing process reliability, equipment reliability, organization and leadership, and work management.**

The course provides attendees an overview of Maintenance and Reliability Best Practices and how the SMRP Body of Knowledge can optimize asset reliability.

The course covers the following topics such as Known Maintenance and Reliability Best Practices, Asset Management, as defined by ISO 55000, 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. The CMRP Exam is focused on the SMRP Body of Knowledge.



- Learn how to bring together various tools and International standards for Asset Management to support your journey.
- Identify and define opportunities for implementing maintenance and reliability 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.
- Assess the current state of your Maintenance/Reliability Processes and create a Master Plan to make changes at your facility after the training is over.

## Who Should Attend?

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

- Maintenance Managers, Supervisors, Planners and Schedulers
- Production Leaders and Engineers
- Mechanical, Electrical, Production or Project Engineers
- Materials Management Managers/Supervisors
- CMMS Administrator
- Maintenance and Reliability Engineers
- Senior Maintenance Technician who aspire to become Maintenance Leaders

## Course Structure:

- Hands on Exercises to enhance learning (over 10 hands on exercises to enhance learning in groups and individually)

## Topics Covered:

- SMRP Body of Knowledge
- SMRP Best Practices
- Maintenance and Reliability Best Practices
- World Class Maintenance Attributes
- Preventive Maintenance / Predictive Maintenance
- Maintenance Planning and Scheduling
- Maintenance Wrench-Time
- Maintenance Rework
- Maintenance Scorecards
- Repeatable Procedures
- Roles and Responsibilities (RACI)

Task Position	Prod Mgt.	Maint Mgr.	Maint Super	Stores	Maint Tech	Maint Planner	Oper.
Write a Work Request	I	A	R		R	R	R
Convert to Work Order	I	A	R	C	I	R	I
WO Charged to an Asset		A	R		C	R	C
Maintenance Planning	C	A	C		C	R	
Maintenance Scheduling	C	A	C	C		R	
Work Execution	I	A	R		R		
Work Order Data Input		A	C		R	R	
Work Order Close Out	C	A	C	I	C	R	I
Maintenance KPIs	I	A	C			R	

Responsibility: I=Initiated, A=Accountable, C=Consulted, I=Informed  
 "The Doer" (could be more than one)  
 "The Buck Stops Here" (One person only)  
 "Who's my communication" (in the loop)  
 "One-way communication" (keep in the picture)

# Workshop Outline

## Maintenance and Reliability Best Practices

- World Class Maintenance Attributes
- Planning / Scheduling Best Practices
- Preventive Maintenance Best Practices
- Maintenance Technician Best Practices

## Asset Management, Standards, Policies and Stakeholders

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

## 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

## Leadership, Organization, and Skills

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

## 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

## 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



# Workshop Outline, Cont.

## Work Management

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

## Materials Management

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

## 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

- 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

## Turnaround Management

- Turnaround Countdown Processes
- Strategies to Control Turnarounds

### **About the CMRP Exam**

- The CMRP program is the leading credential for certifying the knowledge, skills and abilities of maintenance, reliability and physical asset management professionals.
- The CMRP exam is a thorough test of a broad scope of expertise measured against the universal standard.
- It was developed to assess professionals' aptitude within the five pillars of the SMRP Body of Knowledge, which include: business and management, manufacturing process reliability, equipment reliability, organization and leadership, and work management.

### **Accreditation and Recognition**

- The CMRP is accredited by the American National Standard Institute (ANSI), an independent third-party organization that evaluates certification programs and organization requirements on a regular basis.
- The CMRP exam is the only certification program of its kind accredited by ANSI under the ISO/IEC 17024 standard. Visit [www.ansi.org](http://www.ansi.org) to learn more about accreditation.

### **Education/Experience Requirement**

The CMRP is an experienced-based exam. A candidate is unlikely to pass the exam based on knowledge gained from a book, course or educational degree. Though SMRPCO does not endorse a specific study pathway to achieving a passing score on the CMRP, there are numerous study resources available at [www.smrp.org](http://www.smrp.org).

### **CMRP Exam Questions**

The CMRP exam contains 110 multiple-choice questions with four possible answers and only one correct answer. Examinees have two and one-half (2.5) hours to complete the closed-book exam. No reference materials will be allowed during the exam. Online calculators are available to examinees to assist

**Questions? Need more information email me at**  
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