Everything You Wanted to Know about the CMRP But Were Afraid to Ask

SMRP – Society for Maintenance and Reliability Professionals

By Ricky Smith CMRP

WORLD CLASS MAINTENANCE

www.worldclassmaintenance.org

What is SMRP?

As a nonprofit organization created by practitioners for practitioners, SMRP remains committed to conducting business with a member focus. SMRP develops and implements a multi-year strategic plan directly aligned with the organization's mission, vision and values.

Mission, Vision, Values

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Our Mission

To develop and promote excellence in maintenance, reliability and physical asset management.

Our Vision

To be the global leader for the maintenance, reliability and physical asset management profession.

Our Values

SMRP values data-driven excellence, sharing/collaboration, membership focus, continuous improvement, accountability, trust and respect, integrity and social responsibility.

History of the Society for Maintenance and Reliability Professionals
"SMRP"

In 1992, practitioners from 18 different companies created the Society for Maintenance & Reliability Professionals (SMRP) to actively promote maintenance and reliability within their field and to the public.

John Day - Alcoa Mt Holly, one of the founding members – 1 of 3 plants with Maintenance Depts. in the world certified as "World Class Maintenance ".

Following the successful launch of the society, the inaugural SMRP Annual Conference took place in 1993 in Nashville, Tennessee. The event brought together practitioners to network, exchange ideas and learn about the latest tools and technologies.

In 1997, SMRP members identified a need for a certification to validate the skills and knowledge of practitioners. Members began developing the Certified Maintenance & Reliability Professional (CMRP) certification to serve as a benchmark for maintenance and reliability best practices.

Three years later, the first CMRP exam was administered at the annual conference in Cleveland, Ohio, laying the preliminary groundwork for a recognized certification program.

The CMRP has since been accredited by the American National Standards Institute (ANSI).

In 2004, SMRP formed the Body of Knowledge (BoK) Directorate – a group of members dedicated to maintaining a robust library of information and tools. The library has grown to include hundreds of documents, technical papers and presentations on best practices.

Recently, SMRP updated its mission and vision statements to include physical asset management to represent members that are involved with the lifecycle of physical assets in facilities. SMRP's reach has expanded to over 60 countries across six continents.

Membership has grown to over 7,000 individuals, and there are more than 5,000 CMRP, CMRT and CAMA-certified practitioners worldwide. The annual conference now attracts over 1,000 attendees.

SMRP is the premier provider of educational opportunities, networking events and resources for maintenance, reliability and physical asset management professionals.

What is the CMRP?

The Certified Maintenance & Reliability Professional (CMRP) program is the leading credential for validating the knowledge, skills and abilities of maintenance, reliability and physical asset management professionals.

There are over 5,000 CMRP- certified individuals worldwide.

Many employers use the CMRP certification as a prerequisite for hiring to ensure they bring the most talented employees onto their teams.

It is the only certification program of its kind accredited by the American National Standards Institute (ANSI), which follows the globally-recognized International Organization for Standardization (ISO) standards for its accreditation purposes.

Why the CMRP?

Are you looking to advance your career or improve your company's bottom line?

For over 10 years, SMRP and its certifying organization, SMRPCO, have offered world-leading certification programs for maintenance, reliability and physical asset management professionals.

These certification programs provide a unique skill set by going beyond textbook knowledge and testing real-world experiences and abilities.

According to a recent survey of SMRP certificants and members:
- 72% of respondents estimate that maintenance and reliability practices saved their organizations at least $50,000 in the last year. 37% of respondents indicated savings of at least $1 million.
- 62% of leaders indicate that employing a CMRP or CMRT has improved their company's operational metrics.
- 45% of leaders indicate that employing a CMRP or CMRT has increased their company's ability to innovate.
- What are you waiting for? Take the next step in your career today!

Facts about the CMRP Exam?

- **The CMRP Exam is 2-1/2 Hours**
- **There are 110 Multiple Choice Question**
- **Which averages out to 1.7 minutes per question**

1.7 minutes?

CMRP Recommended Study Material Downloads

SMRP Members Only

SMRP

MAINTENANCE AND RELIABILITY BODY OF KNOWLEDGE

Guide to the
Maintenance & Reliability
Body of Knowledge

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SMRP Members Only

SMRP Best Practices
5th Edition

MAINTENANCE & RELIABILITY BODY OF KNOWLEDGE

For more information about SMRP or the Best Practices Committee, please go to www.smrp.org

Free on Internet

iAM

1 The IAM Competences Framework
The Requirements: Version 3.0   June 2014

The IAM Asset Management Competence Requirements Framework

SMRP Members Only

Global Maintenance and
Reliability Indicators

Fitting the Pieces Together

4th Edition

A publication of

European Federation of National Maintenance Societies vzw
and
Society for Maintenance & Reliability Professionals

SMRP Members Only

SMRP

MAINTENANCE AND RELIABILITY BODY

Society for Maintenance and Reliability Professionals
Best Practice Metrics
3rd Edition
October 10, 2011

EXPAND YOUR NETWORK. EXPAND YOUR KNOWLEDGE.

Free on Internet

GFMAM Competency
Specification for an ISO 55001
Asset Management System
Auditor/Assessor
First Edition, Version 2
English Version

GFMAM
Global Forum on Maintenance
& Asset Management

www.gfmam.org

Free on Internet

ENGINEERING RELIABILITY
FAULT TREES AND RELIABILITY BLOCK DIAGRAMS

Harry G. Kwatny

Department of Mechanical Engineering & Mechanics
Drexel University

The CMRP Certification…

Is a Validation for real world knowledge and skills of practitioners and professionals.

According to a SMRPCO Certification Survey, four out of five CMRP-certified individuals would recommend the CMRP as a means to advance their careers.

Earning your certification shows employers, colleagues and peers your commitment to continuing education and training.

Many employers use the CMRP certification as a prerequisite for hiring to ensure they bring the most talented employees onto their teams.

SMRP offers continuing education opportunities such as webinars, workshops and other educational sessions that count toward recertification hours.

What does the CMRP Encompass?

The exam assesses an individual's aptitude within the five pillars of the SMRP Body of Knowledge (BoK):

1. Business & Management
2. Equipment Reliability
3. Manufacturing Process Reliability
4. Organization & Leadership
5. Work Management

Maintenance & Reliability
BODY OF KNOWLEDGE
SMRP
www.smrp.org

1 **PILLAR 1 BUSINESS & MANAGEMENT** Translate business goals into maintenance and reliability goals that support an organization's business results.

2 **PILLAR 2 MANUFACTURING PROCESS RELIABILITY** Apply proven, current methods and new data-driven analytical technologies to support optimum manufacturing process.

3 **PILLAR 3 EQUIPMENT RELIABILITY** Assess capabilities of equipment and processes used to select and apply the most appropriate maintenance practices to ensure a safe and cost-effective delivery.

4 **PILLAR 4 ORGANIZATION & LEADERSHIP** Assure maintenance and reliability staff is qualified and in the best positions possible to achieve the maintenance goals of the organization.

5 **PILLAR 5 WORK MANAGEMENT** Focus on skills used to get maintenance and reliability work done, including: planning and scheduling, quality assurance and store inventory management.

- Each pillar details an area of maintenance, reliability and physical asset management that individuals should be proficient in to improve their careers.
- Several of the pillars also address technical and "people" skills that help individuals better manage relationships with colleagues.

Answers for Questions Concerning the CMRP Exam?

- What is the first step I need to take if I want to take and pass the CMRP Exam?
- Go to www.smrp.org and join SMRP
- Where do I sign up for the CMRP Exam?
- You must apply and pay for the CMRP Exam online at SMRP Website (www.smrp.org)
- How much time do I have to complete the CMRP Exam?
- 2-12 Hours
- How many questions are on the CMRP Exam?
- There are 110 Multiple Choice Question
- How much time is that per question?
- You have 1.7 minutes per question
- Where can take the CMRP Exam?
- After you register for the exam you will be provided a time and location that meets your needs
- How long does it take to get the results?
- Within 5 minutes as to "pass or fail"

My Recommendations for CMRP, Part 1

One "Must" have knowledge concerning the following in order of priority:

1. Known Maintenance and Reliability Best Practices (see "CMRP Study Recommendations step 3 below")
2. SMRP Body of Knowledge
3. SMRP Metrics Definitions
4. Global Maintenance and Reliability Indicators (SMRP)
5. The Global Forum on Maintenance and Asset Management (GFMAM) (low priority but important)
6. Institute of Asset Management Competency Framework (IAM) (low priority but important)
7. Engineering Reliability – Fault Trees and Reliability Block Diagrams by Harry Kwatny

CMRP Study Recommendations:

Step 1 - Join SMRP (www.smrp.org) IMPORTANT FIRST STEP

Step 2 – Join one of the SMRP Chapters or Special Interest Groups and Participate, meet others and learn from each other

Step 3 – Purchase "Maintenance Best Practices" by Ramesh Gulati and "Rules of Thumb for Maintenance and Reliability Engineers" by Ricky Smith and Keith Mobley

Step 4 – Take training in "SMRP Body of Knowledge" or Maintenance and Reliability Best Practices (not a requirement)

Step 5 – Download and Study the following from SMRP Website as a member. (SMRP Body of Knowledge, SMRP Metrics, and SMRP Best Practices, Global Maintenance and Reliability Indicators)

Step 6 – Download these free documents from internet at no charge and study

- The Global Forum on Maintenance and Asset Management (GFMAM)
- Institute of Asset Management Competency Framework (IAM)
- CMRP Candidate Guide for Certification and Recertification (Free on SMRP Website, you do not have to be a member to download), CMRP example questions are in this document
- Reliability Block Diagrams by Harry G. Kwatny (search on internet – free)

My Recommendations for CMRP, Part 2

Learn and Have Knowledge of:

SMRP Body of Knowledge (5 Pillars) - Think about how you could use these Pillars in your organization to optimize asset reliability and maintainability.

Pillar 1: Business & Management

This subject area describes the skills used to translate an organization's business goals into appropriate maintenance and reliability goals that support and contribute to the organization's business results.

Pillar 2: Manufacturing Process Reliability

This subject area relates maintenance and reliability activities to the manufacturing process of the organization to ensure that maintenance and reliability activities improve the manufacturing process.

Pillar 3: Equipment Reliability

This subject area describes two kinds of activities that apply to the equipment and processes for which the maintenance and reliability professional is accountable.

- **First** are those activities used to assess the current capabilities of the equipment and processes in terms of reliability, availability, maintainability, and criticality.
- **Second** are the activities used to select and apply the most appropriate maintenance practices so that the equipment and processes continue to deliver their intended capabilities in the safest and most cost-effective manner.

My Recommendations for CMRP, Part 2 continues

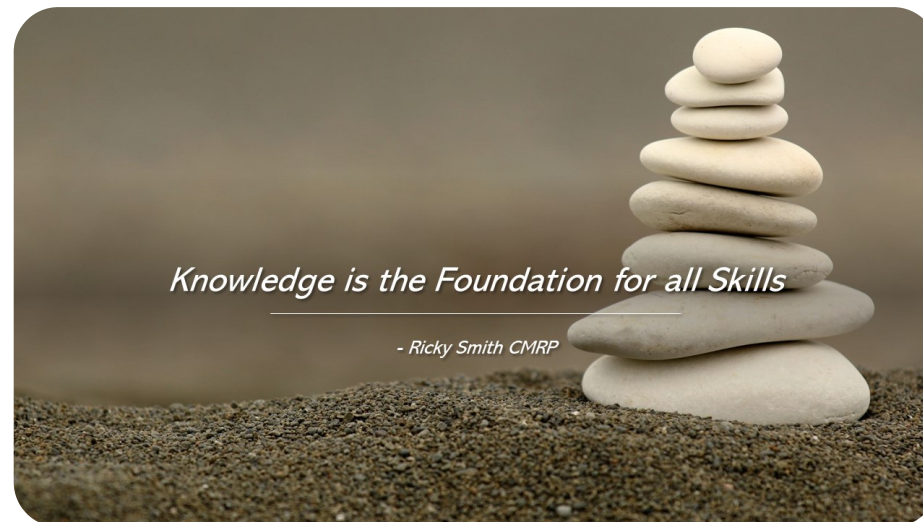## Learn and Have Knowledge of SMRP Body of Knowledge (continues):

Pillar 4: Organization & Leadership
This subject area describes processes for assuring that the maintenance and reliability staff is the most qualified and best assigned to achieve the maintenance and reliability organization goals.
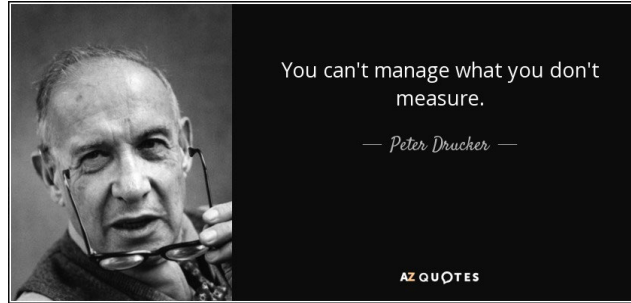
Pillar 5: Work Management
This subject area focuses on the skills used to get the maintenance and reliability work done. It includes scheduling and planning activities, quality assurance of maintenance activities, stores and inventory management.

Side Note: Think about how you could use the 5 Pillars to Optimize/Reshape your current Maintenance and Reliability organization.

Knowledge is the Foundation for all Skills

- Ricky Smith CMRP

My Recommendations for CMRP, Part 3

You can't manage what you don't measure.

— *Peter Drucker* —

AZ QUOTES

Remember this:
- **Leading Metrics lead to results**
- **Lagging Metrics are the results**

Learn and be able to answer questions regarding the SMRP Metrics

SMRP Metrics — **Review the definitions found in each metric along with how they are measured** and think about how one could use these metrics to optimize your current maintenance / reliability program.

The SMRP Metrics provides the maintenance and reliability professional the ability to do the following:
- Identify the standardization of how our maintenance and reliability practices are measured and "forms the foundation for these goals" through;
    - Measure performance consistently
    - Make valid comparison
    - Realistic expectations
    - Establish achievable goals and objectives

My Recommendations for CMRP, Part 4

Study SMRP Best Practices

SMRP Best Practices is a comprehensive publication of world-class metrics, guidelines and a glossary of terms for the maintenance, reliability and physical asset management profession.

This publication is designed to help practitioners run safe, cost-efficient and effective maintenance and reliability programs that align with strategic, operational and tactical best practices of an organization.

The 70+ metrics and guidelines in this new edition provide standardization and benchmarks to measure the success of maintenance and reliability programs.

Each metric is broken down by definition, objective(s), formula, component definitions and qualifications, and includes a sample calculation, best-in-class target values, cautions and notes for harmonization.

 The guidelines provide additional information and further clarification of component terms used in SMRP's metrics.
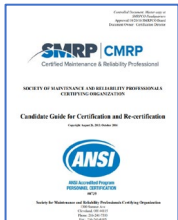
My Recommendations for CMRP, Part 5
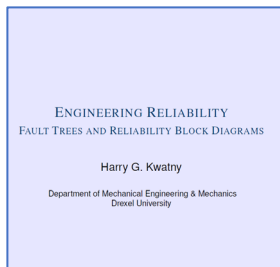
Study These Addition Documents

- **The Global Forum on Maintenance and Asset Management (GFMAM)**

- **Institute of Asset Management Competency Framework (IAM)**

- **CMRP Candidate Guide for Certification and Recertification (Free on SMRP Website, you do not have to be a member to download), CMRP example questions are in this document**
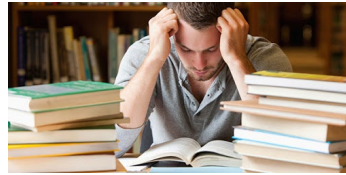
- **Reliability Block Diagrams by Harry G. Kwatny (search on internet – free)**

My Recommendations for CMRP, Part 5

Starting the week prior to the CMRP Exam:

- **Study 2-4 hours every other day using the material recommended previously**

- **Take a 15-minute break every hour, walk around outside and clear your head, no TV while studying.**

- **Study with someone else is good but you will need time alone studying as well**
- **Get plenty of uninterrupted sleep the night prior and minimize alcohol intake (minimum of 6 hours sleep)**
- **Morning of the exam, eat breakfast, minimize sugar intake, take a short walk to clear your head before exam.**

Wishing you the Best

If you have questions email me.

Please contact me when you find out the results of your exam

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www.worldclassmaintenance.org