



# Masterclass Maintenance & Reliability Practitioners



In Person Training



Assessments



3 Days of Live Interactive Sessions



Learning Kit

06 - 08 May 2024

Edmonton, Canada

[www.biiworld.com](http://www.biiworld.com)



## **Instructor:** **Michael Eisenbise**

**Former BP Principal Reliability Engineer for BP Refining-Retired.**

### **Reliability Process Implementation Specialist** **40+ Years Experience in Maintenance & Reliability**

Michael has 43 years of maintenance technology and reliability experience.

Eisenbise is a Certified Maintenance and Reliability Professional (CMRP) with the Society for Maintenance and Reliability Professionals Certifying Organization (SMRPCO), a Certified Plant Engineer (CPE) with the Association of Facility Engineers (AFE), a Certified Plant Maintenance Manager (CPMM) with the AFE, and a Certified Reliability Leader (CRL) with the Association of Asset Management Professionals. He is a registered Professional Engineer (PE) in Florida.

Eisenbise holds a Bachelor's Degree in Engineering, a Master's Degree in Mechanical Engineering from Tennessee Technological University, and a Master's Degree in Maintenance and Reliability from Monash University in Australia.

Michael is a former Chairman of the Society for Maintenance and Reliability Professionals. (SMRP) and, current Chairman of the Houston Chapter of the Society of Reliability Engineers, and Regional Vice President for the Association of Facility Engineers – Region 9.



## Course Description



Companies today face increasing competition and decreasing margins in the global arena. A culture combined with visionary leadership, relentless pursuit of process and cost reduction done right are the ingredients required for survival and growth. Equipment must be safe, reliable, and process variability must be eliminated. Your employees must be motivated and supported with targeted training and a robust and efficient organizational structure. This course is designed to heighten the learning experience and to provide an immersive training environment that maximizes the interaction between attendees and the instructor, and between the attendees their peers.

## Certification



The Certified Maintenance & Reliability Professional (CMRP) program is the #1 leading credentialing program for certifying the knowledge, skills, and abilities of maintenance and reliability professionals worldwide. The CMRP is accredited by the American National Standards Institute (ANSI), which follows globally recognized ISO standards for its accreditation and processes. Earning this certification means earning a coveted credential recognized across all industries internationally.

To register for CMRP exam, click on the below link and follow the on screen instructions.  
<https://smrp.org/CMRP-Registration>

To find the nearest authorised testing centers, click on the below link  
<https://smrp.org/Certification/Test-Center-Search>

## Training Methodology



Classroom lectures with relevant and upto date case studies and exercises.

## Learning Objectives



- Improve your understanding of the best practices of Maintenance and Reliability centered around the SMRP's 5 pillars of excellence
- Define Known Maintenance and Reliability Best Practices
- Develop maintenance leading and lagging KPIs for an Organization
- Define the Maintenance Planning and Scheduling Process
- Develop a PM Procedure`
- Define failures modes for specific components and assets
- Learn what works and what does not working regard to improving equipment reliability





## Who Should Attend?

- Maintenance Managers
- Maintenance Superintendents
- Maintenance Engineers
- Maintenance Planners
- Reliability Engineers
- Plant Managers
- Engineering Managers
- Manufacturing Managers
- Production Managers
- Operations Managers
- Asset Managers

## Course Duration

24 hours spread over 3 days



# Day 1

09:00 - 10:30

🕒 90min

## Course Overview

- Safety - What to do in an emergency
- Introduction of Speaker
- Interactive test
- Introductions and course objectives & Course Overview

10:30 - 10:45 Coffee Break

🕒 90min

10:45 - 11:45

🕒 60min

## BOK Pillar 1: Business & Management

- Strategic versus tactical planning
- Creating strategic direction & plan
- Developing the business case
- Develop tactical plan
- Creating measurement and performance evaluation

11:45 - 11:55 Short Break

🕒 10min

11:55 - 13:00

🕒 65min

## BOK Pillar 1: Business & Management (Continued)

- Elements of a Plan
- Managing change (Discuss 7 steps of change and system not analyzing itself. )

13:00 - 14:00 Lunch

🕒 60min

14:00 - 14:15

🕒 15min

## BOK Pillar 1: Business & Management (Continued)

- Maintenance and Operations performance agreements

14:20 - 14:55

🕒 35min

## BOK Pillar 2: Manufacturing Process Reliability

- Understanding the manufacturing process &
- Implementing process/continuous improvement
- (Discuss talking to operators and vulnerability study)
- Barringer Process Reliability - plotting and benchmarking
- Manufacturing effectiveness techniques (die exchange)
- Safety, Security, Health, and Environmental (SSHE) issues (Discuss safety pyramid)

14:55 - 15:30

🕒 35min

## BOK Pillar 3: Equipment Reliability

- Maintenance and Reliability Pyramid (Distribute SAMI pyramid)
- Determining process and equipment performance expectations
- Establishing a maintenance and reliability strategy to assure performance goals (Include equipment reliability strategy and asset health monitoring)

15:30 - 15:45 Coffee Break

🕒 15min

15:45 - 17:00

🕒 75min

## BOK Pillar 3: Equipment Reliability

- Equipment hierarchy validation
- Equipment criticality vs equipment risk
- Basic elements of a maintenance strategy - lubrication plan

🕒 17:00

## Close of the day 1



# Day 2

09:00 - 10:30

🕒 90min

## BOK Pillar 3: Equipment Reliability (Continued)

- FMEA/FMECA
- RCM to include CBM/PdM
- RCA
- 5 Why's
- Basic elements of a maintenance strategy - Failure mode based maintenance

10:30 - 10:45 Coffee Break

🕒 15min

10:45 - 11:45

🕒 60min

## BOK Pillar 3: Equipment Reliability (Continued)

- Basic elements of a maintenance strategy - Precision maintenance
- Writing effective PMs
- OEE
- Establishing policies and procedures
- Asset health monitoring

11:45 - 11:55 Short Break

🕒 10min

11:55 - 13:00

🕒 65min

## BOK Pillar 3: Equipment Reliability (Continued)

- Cost-justifying the proposed equipment reliability plan
- FRACAS
- RBD and RAM Modeling

13:00 - 14:00 Lunch

🕒 60min

14:00 - 14:45

🕒 45min

## BOK Pillar 4: Organization & Leadership

- Determining organizational requirements
- Analyzing organizational capability

- Personnel development/developing competency based learning
- Leadership development and growth
- Communicating maintenance and reliability plan to the organization

14:45 - 15:30

🕒 45min

## BOK Pillar 5: Work Management

- Identifying work
- Developing a work prioritization system
- Effectively planning work - backlog management
- Effectively planning work - kitting
- Effectively planning work - shutdown turnaround (STO) planning

15:30 - 15:45 Coffee Break

🕒 15min

15:45 - 17:00

🕒 75min

## BOK Pillar 5: Work Management (Continued)

- Effectively scheduling work
- Documenting work execution
- Analyzing work history and following up
- Craft Productivity
- Planning and executing capital projects
- Effectively utilizing work management technology - CMMS/EAM systems
- Effectively utilizing work management technology - Data mining systems
- Effective materials management

🕒 17:00

Close of the day 2





# Day 3

09:00 - 10:30

🕒 90min

## Other maintenance and reliability topics

- Maintenance metrics and formulas
- Maintenance and reliability definitions

10:30 - 10:45

Coffee Break

🕒 15min

10:45 - 12:00

🕒 75min

## Other maintenance and reliability topics

- Reliability in Design
- Teams
- TPM
- 5's
- Crow AMSAA

12:00 - 13:00 Lunch

🕒 60min

13:00 - 14:30

🕒 90min

## Other maintenance and reliability topics

- Weibull Analysis
- Condition Maintenance Techniques

14:30 - 16:00

90min

- Question & Answers Session

## Close of the day 3

## Suggested Reading Materials for CMRP Exam:

Maintenance & Reliability Best Practices  
by Ramesh Gulatti

Making Common Sense Common Practice  
by Ron Moore

Reliability Centered Maintenance  
by John Mourbray



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