

# Certified Maintenance & Reliability Professional (CMRP)

Improve Your Knowledge by Understanding Body of Knowledge of CMRP

26<sup>th</sup> February - 01<sup>st</sup> March 2024 at Kuala Lumpur, Malaysia | 13<sup>th</sup> - 17<sup>th</sup> May 2024 at Kuala Lumpur, Malaysia  
01<sup>st</sup> - 05<sup>th</sup> July 2024 at Bandung, Indonesia | 18<sup>th</sup> - 22<sup>th</sup> November 2024 at Kuala Lumpur, Malaysia  
25<sup>th</sup> - 29<sup>th</sup> November 2024 at Bandung, Indonesia



**Petrosync Distinguished Instructor**

**Ahmed D., PHD, CMRP, CRE, PE.**

Maintenance and Reliability Expert

Case Studies,  
Discussion, and many  
Practical exercises!

## Position and Credentials:

- Certified Maintenance & Reliability Professional (CMRP)
- Certified RCM Facilitator (SKF / Aladon)
- Certified through the Institute of Asset Management (UK) as organization preparation facilitator / service provider respectively for the ISO 55000 (Asset Management) and ISO 31000 (Risk Management) standards.
- Certified Reliability Engineer (CRE)
- Certified ultrasonic testing specialist (BINDT)
- Certified vibration analyst level 1 (BINDT)
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- Certified Instructor (OSHA (Several areas))
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- Certified Thermographic Imaging analyst 3 (FLIR)
- Certified Oil Analyst 3 and lubrication program developer (NOREA)
- Certified RBI Specialist and Inspection program developer (API) (API 580, 581, 570, 510)
- Certified Facilitator (GE)
- Certified Presenter and Public Speaker (GE)

## PROGRAM SCHEDULE

08:00	Registration (Day1)
08:10 – 10:00	Session I
10:00 – 10:15	1 <sup>st</sup> Tea Break
10:15 – 12:30	Session II
12:30 – 13:30	Lunch Break
13:30 – 15:00	Session III
15:00 – 15:15	2 <sup>nd</sup> Tea Break
15:15 – 16:00	Session IV
16:00	End of Day

*\*Schedule may vary for each training*

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### Introduction

Become recognized as a maintenance and reliability professional by attaining internationally recognized certification from the respectable and recognized certifying body Society of Maintenance and Reliability Professionals (SMRP).

Achieving this recognition status allows you to validate your knowledge and experience in a recognized and documented manner as well as opens doors to endless possibilities within your organization or within any world-class organization.

### Course Overview

The CMRP certification is built on the principal of combined work experience and course work in the field of maintenance, reliability and asset management.

The requirements set forth by the society of maintenance and reliability professionals (SMRP) the certifying body for the CMRP follows the bellow Body of Knowledge (BOK).

Pillar 1: Business and Management

Pillar 2: Manufacturing Process Reliability

Pillar 3: Equipment Reliability

Pillar 4: Organization & Leadership

Pillar 5: Work Management

### Why Get Certified?

Global players in almost every industry prefer if not require their staff and or potential talent to be able to hit the ground running and it is becoming more of a common practice for them to request their employees or potential talent pool to achieve certification as a certified maintenance and reliability professional CMRP through the SMRP certifying body.

### Target Audience

- Maintenance and Reliability Professionals
- Production/Operations Professionals
- Senior Engineering, Maintenance and Reliability Managers

## IN-HOUSE SOLUTIONS

### SAVE COST • IMPROVE PERFORMANCE • REDUCE RISK

PetroSync understands that in current economic climate, getting an excellent return on your training investment is critical for all our clients. This excellent training can be conducted exclusively for your organization. The training can be tailored to meet your specific needs at your preferred location and time. We will meet you anywhere around the globe.

If you like to know more about this excellent program, please contact us on +65 3159 0800 or email [general@petrosync.com](mailto:general@petrosync.com)

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### Training Agenda

#### Day 1

##### 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.

##### 1.1 Understand the applicable processes

- Document process flow
- Understand process parameters
- Understand quality specifications

##### 1.2 Apply process improvement techniques

- Identify production losses
- Establish continuous improvement process

##### 1.3 Manage effects of change to processes and equipment

- Establish change protocol
- Update documentation
- Update procedures

##### 1.4 Maintain processes in accordance with applicable standards and regulations

- Understand industry standards
- Understand regulatory requirements
- Ensure compliance

#### Day 2

##### 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 their 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

##### 2.1 Determine equipment reliability expectations

- Identify reliability goals
- Identify process expectations

##### 2.2 Evaluate equipment reliability and identify improvement opportunities

- Measure and track performance
- Determine best demonstrated performance
- Analyze gaps

##### 2.3 Establish a strategic plan to assure reliability of existing equipment

- Identify appropriate analysis techniques
- Develop maintenance strategy and tactics

##### 2.4 Establish a strategic plan to assure reliability of new equipment

- Establish reliability specifications
- Establish acceptance criteria
- Obtain complete documentation

##### 2.5 Cost-justify selected plans for implementation

- Conduct cost benefit analysis
- Communicate benefits
- Obtain approval

##### 2.6 Implement selected plans to assure equipment reliability

- Apply reliability strategies
- Establish organization structure
- Provide resources

##### 2.7 Review reliability of equipment and adjust reliability strategy

- Assess key performance indicators
- Analysis deviations
- Identify relevant best practices
- Implement continuous improvement

Case Study/Exercise: Developing a criticality structure, conduct criticality ranking.

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### Day 3

#### Work Management

This subject area focuses on the skills used to get the maintenance and reliability work done. It includes planning and scheduling activities, quality assurance of maintenance activities, stores and inventory management.

##### 3.1 Identify, validate, and approve work

- Establish work identification processes
- Select and approve viable work

##### 3.2 Prioritize work

- Develop formal prioritizing system
- Implement formal prioritizing system

##### 3.3 Plan work

- Develop job package
- Including scope and procedures
- Including materials and tools
- Including testing

##### 3.4 Schedule work

- Develop scheduling process
- Produce work schedule
- Balance resources
- Monitor backlog
- Manage break-in work

##### 3.5 Execute work

- Manage labor
- Manage material and services
- Control productivity
- Ensure EHS compliance

##### 3.6 Document work

- Create post work document process
- Record failure events and failure modes

##### 3.7 Analyze work and follow-up

- Compare actual work with plan
- Identify variances

##### 3.8 Measure work management performance

- Establish performance indicators
- Report schedule compliance and rework

##### 3.9 Plan and execute projects

- Define scope
- Estimate project and life cycle costs
- Apply critical path methods
- Track progress
- Coordinate staffing

##### 3.10 Use information technologies effectively

- Leverage capabilities of data historian
- Process control systems
- Condition monitoring software
- EAM,CMMS systems functionality

##### 3.11 Manage resources and materials

- Control materials inventory
- Manage spares and equipment
- Establish MRO procurement process
- Manage contractors
- Reliability Centered Maintenance
- Failure Mode Effects Analysis
- Criticality Analysis
- Pm Optimization
- Root Cause Analysis
- Reliability Engineering
- Capital Project Management
- Vibration Analysis
- Ultrasound Testing
- Alignment and Balancing
- Motor Testing
- Machinery Lubrication

Case Study/Exercise: Conducting FMEA study followed by criticality based task selection

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- Non Destructive Testing
- Infrared Thermal Imaging
- Asset Condition Information
- Oil Analysis
- Preventive Maintenance
- Planning and Scheduling
- Operator Driven Reliability
- MRO Spares Management
- Defect Elimination
- Computerized Maintenance Management Systems (CMMS)
- Operational Excellence
- Key Performance Indicators
- Physical Asset Management
- Human Capital Management
- Integrity
- Competency Based Learning
- Executive Sponsorship

### Day 4

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.

- 4.1 Determine organizational requirements
  - Review strategic plan
  - Determine required skills
  - Determine required staffing levels
- 4.2 Analyze organizational capability
  - Inventory staff skills
  - Determine performance gaps
- 4.3 Develop the organization structure
  - Establish reporting channels
  - Determine roles
  - Determine responsibilities
  - Manage reorganization
- 4.4 Develop personnel
  - Provide training
  - Obtain needed expertise
  - Delineate career paths

### 4.5 Lead and manage people

- Develop leadership skills
- Assess performance
- Promote cooperative work environment
- Facilitate communication

**Case Study/Exercise: Developing the appropriate management structure to assign and manage these tasks as well as follow up and track**

### Day 5

#### Business and 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.

- 5.1 Create Strategic direction and plan for M&R operations
  - Provide vision and direction
  - Provide clear and measurable goals
- 5.2 Administer Strategic plan
  - Develop support
  - Obtain approval and resources
  - Implement plans
- 5.3 Measure Performance
  - Select key performance indicators
  - Track and report
- 5.4 Manage organizational plan
  - Develop change management process
  - Communicate benefits
- 5.5 Communicate with stakeholders
  - Provide management reports
  - Inform staff
  - Coordinate with operations
- 5.6 Manage environmental-health-safety risk
  - Support community EHS goals
  - Support security goals
  - Conform to applicable regulations
  - Provide EHS training

**Case Study/Exercise: Performing basic data analytics using exponential and weibull distributions**

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### Petrosync Distinguished Instructor

Ahmed D., PHD, CMRP, CRE, PE.

Maintenance and Reliability Expert

Ahmed is the CEO and President of Operational Excellence Experts Consultant and Training with 20 years experiences in asset management, technical asset integrity management, asset management, maintenance and reliability.

Ahmed is certified on Maintenance & Reliability Professional (CMRP). He is Founder and Chairman of the board of the Egyptian Society for Asset Management Professionals.

Ahmed Developed Reliability Departments and consulting divisions for GE (Bentley Nevada), Meridium, SKF in Middle East and Africa as well as several customer companies

#### ➔ Position and Credentials:

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- Certified RBI Specialist and Inspection program developer (API) (API 580, 581, 570, 510)
- Certified Facilitator (GE)
- Certified Presenter and Public Speaker (GE)

#### ➔ Publications:

- Introduction to and implementation of International Standard ISO 14224:2006 – Reliability and Maintenance Data Management and Transfer(Arabic / DPIC Publications 2014)
- Introduction to and implementation of International Standard ISO 55000:2014 – Asset Management (Arabic / DPIC publications Egypt 2014).
- Introduction to and implementation of International Standard ISO 31000:1998 – Risk Management (Arabic / DPIC Publications 2015).

#### ➔ Partial Client Lists:

- |                                             |                                                     |                         |
|---------------------------------------------|-----------------------------------------------------|-------------------------|
| ◦ Saudi Aramco                              | ◦ KNPC                                              | ◦ Qatar Aluminum        |
| ◦ Egyptian Ethylene and Derivatives Company | ◦ Khartoum Refining Company                         | ◦ Emal                  |
| ◦ GASCO                                     | ◦ Alexandria Mineral Oil Company                    | ◦ UGDC                  |
| ◦ ARAMCO - KSA (East West Pipeline)         | ◦ Pharonic Oil Company                              | ◦ Raya Network Services |
| ◦ ADGAS                                     | ◦ Galaya Metal                                      |                         |
| ◦ ADMA – OPCO                               | ◦ Ideal Standard                                    |                         |
| ◦ OMV Petrom                                | ◦ Smart Villages Development and Management Company |                         |
| ◦ Middle East Refining Company              | ◦ Amerya Petroleum Refining Company                 |                         |

## INVESTMENT PACKAGES

Please checklist the package that you are attending!

	Certified Maintenance & Reliability Professionals (CMRP) Schedules	LOCATION	PRICE
<input type="checkbox"/>	26 <sup>th</sup> February - 01 <sup>st</sup> March 2024	Kuala Lumpur, Malaysia	USD 3,350
<input type="checkbox"/>	13 <sup>th</sup> - 17 <sup>th</sup> May 2024	Kuala Lumpur, Malaysia	USD 3,350
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\* All prices are subject to change without notice and are not guaranteed, except that prices for an order that have been accepted by PetroSync is not subject to change after acceptance.

\* Price is nett excluding Withholding Tax if any and will be quoted separately. Please send us the withholding tax payment receipt.

## DELEGATE DETAILS

1st Delegate Name \_\_\_\_\_ Mr  Mrs  Ms  Dr  Others

Direct Line Number: \_\_\_\_\_ Email: \_\_\_\_\_

Mobile Number: \_\_\_\_\_ Job Title: \_\_\_\_\_

Department: \_\_\_\_\_ Head of Department: \_\_\_\_\_

2nd Delegate Name \_\_\_\_\_ Mr  Mrs  Ms  Dr  Others

Direct Line Number: \_\_\_\_\_ Email: \_\_\_\_\_

Mobile Number: \_\_\_\_\_ Job Title: \_\_\_\_\_

Department: \_\_\_\_\_ Head of Department: \_\_\_\_\_

3rd Delegate Name \_\_\_\_\_ Mr  Mrs  Ms  Dr  Others

Direct Line Number: \_\_\_\_\_ Email: \_\_\_\_\_

Mobile Number: \_\_\_\_\_ Job Title: \_\_\_\_\_

Department: \_\_\_\_\_ Head of Department: \_\_\_\_\_

\*Please fill all the details including mobile number. This help us to contact participant if they are late in class or if there is any urgent update (through whatsapp/call)

## INVOICE DETAILS

Attention Invoice to: \_\_\_\_\_

Direct Line Number: \_\_\_\_\_ Fax: \_\_\_\_\_

Company: \_\_\_\_\_ Industry: \_\_\_\_\_

Address: \_\_\_\_\_ Postcode: \_\_\_\_\_

Country: \_\_\_\_\_ Email: \_\_\_\_\_

Please note:

- Indicate if you have already registered by Phone  Fax  Email  Web

- If you have not received an acknowledgement before the training, please call us to confirm your booking.

## PAYMENT METHODS

By Credit Card

By Direct Transfer : Please quote invoice number(s) on remittance advice

PetroSync Global Pte Ltd Bank details:

Account Name : PetroSync Global Pte Ltd

Bank Name : DBS Bank Ltd

Bank Code : 7171 • Bank Swift Code : DBSSSGSGXXX • Branch code : 288

Account No : 0288-002682-01-6-022 (USD)

Bank Address : 12 Marina Boulevard, Level 3. Marina Bay Financial Centre Tower 3. Singapore 018982

All bank charges to be borne by payer. Please ensure that PetroSync Global Pte Ltd receives the full invoiced amount.

## Confirmation

I agree to PetroSync's terms & conditions, payment terms and cancellation policy.

Authorized Signature : \_\_\_\_\_

Date : \_\_\_\_\_

**PAYMENT TERMS** : Payment is due in full at the time of registration. Full payment is mandatory for event attendance.

## PROGRAMME CONSULTANT

Contact : Cay Aagen

Email : registration@petrosync.com

Phone : +65 3159 0800

## TERMS AND CONDITIONS

### DISCLAIMER

Please note that trainers and topics were confirmed at the time of publishing; however, PetroSync may necessitate substitutions, alterations or cancellations of the trainers or topics or location (classroom / Virtual). As such, PetroSync reserves the right to change or cancel any part of its published programme due to unforeseen circumstances. Any substitutions or alterations will be updated on our web page as soon as possible.

### DATA PROTECTION

The information you provide will be safeguarded by PetroSync that may be used to keep you informed of relevant products and services. As an international group we may transfer your data on a global basis for the purpose indicated above. If you do not want us to share your information with other reputable companies, please tick this box

### CANCELLATION POLICY

Delegates who cancel after the training is officially confirmed run by email, are liable to pay the full course fee and no refunds will be granted. You may substitute delegates at any time as long as reasonable advance notice is given to PetroSync.

In the event that PetroSync cancels or postpones or change the trainer or change the training location (classroom / virtual) of an event for any reason and that the delegate is unable or unwilling to attend in on the rescheduled date, you will receive a credit voucher for 100% of the contract fee paid. You may use this credit voucher for another PetroSync to be mutually agreed with PetroSync, which must occur within a year from the date of postponement.

PetroSync is not responsible for any loss or damage as a result of the cancellation policy. PetroSync will assume no liability whatsoever in the event this event is cancelled, rescheduled or postponed due to any Act of God, fire, act of government or state, war, civil commotion, insurrection, embargo, industrial action, or any other reason beyond management control.

### CERTIFICATE OF ATTENDANCE


80% attendance is required for PetroSync's Certificate of Attendance.

## DETAILS

Please accept our apologies for mail or email that is incorrectly addressed.

Please email us at registration@petrosync.com and inform us of any incorrect details. We will amend them accordingly.

### Find us on Social Media:

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## CHARGES & FEE(S)

- For Payment by Direct Telegraphic Transfer, client has to bear both local and oversea bank charges.

- For credit card payment, there is additional 4% credit card processing fee.