

Maintenance & Reliability Best Practices

CMRP Exam Preparation

Course Overview

Over recent years many good practices in maintenance have been developed that have contributed to improved performance. This course is designed for maintenance and reliability professionals wishing to broaden their knowledge in the field of maintenance and reliability.

Scope

The scope of the course is to introduce participants to the 5 pillars of maintenance as defined by the Society for Maintenance and Reliability Professionals and prepare participants for the Certified Maintenance and Reliability Professional (CMRP) Exam.

Course objectives

At the end of this training course, attendees will be able to:

- Evaluate existing maintenance programs;
- Implement principles and strategies to manage maintenance effectively;
- Set targets related to Reliability to improve plant performance;
- Understand the true cost of downtime;
- Get acquainted with proactive maintenance methods;
- Reduce maintenance costs through efficient work management practices;
- Pass the CMRP exam.

Who should attend:

The course is designed for Maintenance and Reliability Engineers, Production and Operations Engineers, Managers, Apprentice Engineers and Supervisors

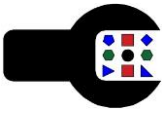
Training Methodology: This is an interactive training course and the content will be covered by using lectures, workshops and work presentations, case studies and practical exercises and videos.

Course instructor: George Loizou

George is a Mechanical Engineer with more than 35 years of experience mainly in the Oil and Gas Industry. George holds an MSc Degree from The Pennsylvania State University. He is a member of SMRP and a Certified Maintenance and Reliability Professional (CMRP). He is also member of the Cyprus Scientific and Technical Chamber and associated member of the Institution of Mechanical Engineers of UK. George worked as Head of Mechanical Maintenance at the Cyprus Petroleum Refinery Ltd, Engineering Manager and Terminal Manager at Cyprus Petroleum Storage Company Ltd. He has a wide experience as a trainer, as since 2005 he has been delivering courses and seminars internationally.

Duration: 5 Days

Course Venue: TBA



DAY 1

1. Course Overview.

Participant introduction.

2. The Society of Maintenance and Reliability Professionals.

3. Short quiz (Kahoot).

4. Principles of Maintenance

- Maintenance – Historical Perspective;
- Basic terms (maintenance, Reliability, MTBF, MTTR);
- Understanding Failures;
- Types of Maintenance;
- Asset Management - ISO55000.

5. Introduction to Best Practices

- What is a best practice;
- Metrics.

6. Pillar 1 - Business Management

- Strategic Plans;
- Vision, Mission, Maintenance Policy and Strategy;
- Assessing the present situation;
- Communicating programs and change to stakeholders;
- Leading & lagging indicators;
- Risk Management;
- Building the business case;
- Maintenance/Operations performance agreements;
- Short quiz (Kahoot).

DAY 2

7. Pillar 2 - Manufacturing Process Reliability

- Process and industry standards;
- The manufacturing process;
- Statistical terms/Exercise;
- Manufacturing effectiveness techniques;
- HSE issues/Case study/Video;
- Management of change/Case study/Video;
- SET KPIs;
- Short quiz (Kahoot).

DAY 3

8. Pillar 3 - Equipment Reliability

- Process and Equipment performance requirements;
- Exercise;
- Activity based budgeting;

- Pareto analysis, Weibull analysis, Reliability growth/Exercises;
- Series/redundant systems;
- Establish a maintenance strategy;
- Predictive Maintenance methods;
- Pump performance exercise;
- Root Cause Analysis (RCA)/Case study;
- Life cycle cost analysis/exercise;
- Cost of failure/downtime/exercise;
- RCM/TPM;
- Asset criticality;
- Cost-justify (budget) tactics selected for implementation;
- Execute a maintenance strategy;
- Setting KPIs.
- Short quiz (Kahoot).

DAY 4

9. Pillar 4 - Organization and Leadership

- Organizational culture & Leadership;
- Develop the maintenance and reliability organization structure;
- Develop the maintenance and reliability staff;
- Communicate maintenance and reliability to the organization;
- Set KPIs;

10. Pillar 5 - Work Management

- Work identification;
- Work Order prioritization system;
- Work planning;
- Work scheduling;
- Wrench time;

DAY 5

- Backlog management.
- Documentation (Plant changes, Maintenance data);
- Inventory control;
- Capital project planning;
- Turnaround Management;
- Effective use of information technologies (CMMS, etc.);
- SET KPIs;
- Short quiz (Kahoot).

11. Practice questions/Questions and Answers

12. Course assessment

13. Presentation of Certificates