



ME118: Asset Optimization Efficiency & Reliability

Training Description:

This intensive training course is designed to provide participants with a detailed and up-to-date overview of asset optimization, reliability and efficiency. It covers the reliability and maintenance that include goals and objectives, cost, terms, definitions and policies and classifications; the route and key success factors of maintenance excellence; the equipment failure patterns and causes; and the equipment criticality analysis, reliability centered maintenance and failure modes and effects analysis.

During this interactive course, participants will learn the root cause failure analysis and RCFA tools; the concepts, benefits and process of life cycle cost (LLC); the condition monitoring analysis, precision maintenance and total productive maintenance; the work planning and scheduling; the human reliability; and the reliability auditing, continuous improvement and measuring KPIs and outcomes.

Training Objectives:

By the end of the training, participants will be able to:

- ✓ Apply systematic techniques on asset optimization, reliability and efficiency
- ✓ Discuss asset optimization and efficiency covering definitions, policies and concepts
- ✓ Explain reliability and maintenance that include goals and objectives, cost, terms, definitions and policies and classifications
- ✓ Describe maintenance excellence as well as identify the route and key success factors
- ✓ Determine equipment failure patterns and causes as well as explain why equipment fails including bathtub curves, physical failures, human errors and latent causes
- ✓ Employ equipment criticality analysis, reliability centered maintenance and failure modes and effects analysis
- ✓ Carryout root cause failure analysis and identify RCFA tools covering brainstorming, 5 whys, fishbone diagram and pareto analysis
- ✓ Define life cycle cost (LLC) and describe its concepts, benefits and process
- ✓ Illustrate condition monitoring analysis, precision maintenance and total productive maintenance
- ✓ Employ work planning and scheduling and discuss the roles and responsibilities of the planner, plan maintenance activity and apply maintenance scheduling process and scheduling tools
- ✓ Discuss human reliability and apply reliability auditing, continuous improvement and measuring KPIs and outcomes

Training Designed for:

This course is intended for maintenance excellence for engineers, managers of plant operations, facility managers or maintenance professionals who are responsible for maintaining and managing the physical equipment assets of his plant as well as those who represent large facilities and plants from industries such as mining, oil and gas, pulp and paper, utilities, primary metals and heavy manufacturing.

Training Requirement:

“Hand’s on practical sessions, equipment and software will be applied during the course if required and as per the client’s request.”

Contents can be adapted to your specific wishes. It is therefore possible to focus on specific modules of the training course as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

Training Program:

DAY ONE:

- ❖ PRE-TEST
- ❖ Introduction to Asset Optimization
 - Understanding Asset Optimization, Definitions, Policies & Concepts
- ❖ Introduction to Asset Efficiency
 - Understanding Asset Efficiency, Policies & Concepts
- ❖ Introduction to Reliability & Maintenance
 - Understanding Maintenance & Reliability, Goals & Objectives, Cost, Terms & Definitions, Policies & Classifications
- ❖ Maintenance Excellence
 - What is it? The Route, Key Success Factors
- ❖ Equipment Failure Patterns & Causes
 - Why Equipment Fails
 - Equipment Failure Patterns & Characteristics, Bathtub Curves
 - Causes of Failure: Physical Failures, Human Errors & Latent Causes
- ❖ Illustrating Videos
- ❖ Discussion & Exercises

DAY TWO:

- ❖ Equipment Criticality Analysis
 - Definition, Concept, Benefits, Process
- ❖ Reliability Centered Maintenance
 - RCM Definition, Concepts, Benefits & Process
- ❖ Failure Modes & Effects Analysis
 - FMEA Definition, Concepts, Benefits & Process
- ❖ Illustrating Videos
- ❖ Discussion & Exercises
- ❖ Recap

DAY THREE:

- ❖ Root Cause Failure Analysis
 - RCFA Definition, Concepts, Benefits, Process
 - RCFA Tools:
 - Brainstorming, 5 Whys, Fishbone Diagram, Pareto Analysis
- ❖ Life Cycle Cost
 - LCC Definition, Concepts, Benefits & Process
- ❖ Discussion & Exercises
- ❖ Recap

DAY FOUR:

- ❖ Condition Monitoring & Analysis
 - Definition, Concepts, Benefits, Process
- ❖ Precision Maintenance
 - Definition, Concepts, Benefits, Process

- ❖ **Total Productive Maintenance**
 - TPM Definition, TPM Concept, TPM Benefits, TPM Process
- ❖ **Illustrating Videos**
- ❖ **Discussion & Exercises**
- ❖ **Recap**

DAY FIVE:

- ❖ **Work Planning & Scheduling**
 - Definition, Concept, Benefits, Understand the Roles & Responsibilities of the Planner, Planning a Maintenance Activity, Maintenance Scheduling Process, Scheduling Tools
- ❖ **Human Reliability**
 - Definition, Concepts, Benefits, Process
- ❖ **Reliability Auditing & Continuous Improvement**
 - Measuring KPIs & Outcomes
- ❖ **Discussion & Exercises**
- ❖ **Course Conclusion**
- ❖ **POST-ASSESSMENT and EVALUATION**

Training Methodology:

This interactive training course includes the following training methodologies as a percentage of the total tuition hours:

- 30% Lectures, Concepts, Role Play
- 70% Workshops & Work Presentations, Techniques, Based on Case Studies & Practical Exercises, Gamification, Software & General Discussions
- Pre and Post Test

Training Certificate(s):

CMCT Internationally recognized certificate(s) will be issued to each participant who completed the course.

Training Fees:

TBA as per the course location - This rate includes participant's manual, hand-outs, buffet lunch, coffee/tea on arrival, morning & afternoon of each day.

Note: The 5% VAT (Value Added Tax), will be effective starting 01st of January 2018 as per the new regulation from the UAE Government. The VAT applies for all quotation both for local and abroad.

Training Timings:

Daily Timings:

07:45 - 08:00	Morning Coffee / Tea
08:00 - 10:00	First Session
10:00 - 10:20	Recess (Coffee/Tea/Snacks)
10:20 - 12:20	Second Session
12:20 - 13:00	Recess (Prayer Break & Lunch)
13:00 - 14:00	Last Session

For training registrations or in-house enquiries, please contact:

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