ME181:
Excellence in Maintenance & Reliability Management

Training Description:

Every year, industry in the United States alone is spending around one trillion dollars on plant and equipment maintenance. According to maintenance specialists, at least one third of this amount is wasted, and that's just the tip of the iceberg. Bad maintenance management is responsible for equipment failures, disrupted production schedules, delays in deliveries, and poor product quality. Why is industry wasting one out of every three dollars spent on maintenance? The answer is simple: Poor management and poor systems.

This intensive training course is designed to assist maintenance management personnel responsible for delivering maximum reliability and availability of equipment at the lowest possible cost. The course will present techniques designed to improve the effectiveness of maintenance management activities, to ensure that physical assets perform their required functions, operate reliably, and support corporate goals.

The training course sessions will focus on the modern methods and techniques on the most critical aspects of maintenance management such as Organizing maintenance resource, Selecting the right maintenance work, Analyzing failures, Setting and conducting a maintenance plan, Planning spare parts, Estimating and controlling maintenance costs, Computerizing maintenance planning and measurement operations. The participants will also be introduced to Reliability tools and the effect human reliability has on plant availability.

To maximize the benefits of the course, participants should be prepared to actively participate in the course and bring examples of standard work plans, a list of plant performance metrics, the work priority system in-place, and any other maintenance or reliability material they would like to review and discuss.

Training Objectives:

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

- ✓ Achieve excellence in maintenance and reliability management and establish the environment for improvement
- ✓ Recognize the aspects of maintenance today through the various types of maintenance including maintenance strategy development and productive maintenance
- ✓ Apply maintenance business model, maintenance organization, and business elements and identify the different equipment failure patterns and the reasons why equipment fails
- ✓ Determine the process of developing maintenance objectives in accordance to the business plan, R&M policy and maintenance strategy, discuss the significance of equipment plans in maintenance planning and identify several equipment plans development, approaches and plan options
- ✓ Employ the methods of preventive maintenance and condition monitoring including vibration monitoring, equipment monitoring frequency and infrared thermography
- ✓ Implement the procedure of work selection in accordance with work screening procedure, work request requirements, prioritization systems and cost benefits
- ✓ Carryout various strategies of work planning and scheduling by identifying the planning effectiveness, planners and staffing, routine maintenance planning and use of various planning tools and specify the different proven turnaround practices in accordance with success factors and management practices
- ✓ Recognize the purpose of work execution and job completion and characterize its advantages and disadvantages, implement the methods of maintenance quality assurance and continuous

improvement and employ the method of Root Cause Failure Analysis (RCFA)

- ✓ Apply the various stewardship and performance metrics including performance work management, KPIs, maintenance effectiveness metrics and work force utilization metrics
- ✓ Distinguish the factors of human reliability through classification of human error and human reliability analysis, familiarize the different reliability tools using life cycle cost analysis and life data analysis and discuss the key elements of reliability engineering and how to manage assets in projects
- ✓ Apply the concept of Computerized Maintenance Management Systems (CMMS) with focus on SAP system and identify the CMMS components, benefits, implementation plan and more

Training Designed for:

This course is intended for Maintenance Management Team delivering maximum reliability and availability of equipment at the lowest possible cost. The course will present techniques designed to improve the effectiveness of maintenance management activities, to ensure that physical assets perform their required functions, operate reliably, and support corporate goals. It is essential for all Maintenance and Reliability Management Staff.

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:

FIVE DAYS:

- ❖ Introduction
- ❖ Maintenance Excellence
  - Framework for Maintenance Excellence, Overall Philosophy, Maintenance Principles, Work Environment, Equipment, Information Systems, Elements for Effective Maintenance, Establishing the Environment for Improvement
- ❖ Maintenance Today
  - Types of Maintenance, Maintenance Strategy Development, Productive Maintenance
- ❖ Equipment Failure Patterns
  - Types of Equipment Failures, Why Equipment Fails, Failure Analysis & Root Cause
- ❖ Maintenance Management
  - Managing Maintenance, Basic Principles, Maintenance Business Model, Business Elements, Maintenance Organization
- ❖ Maintenance Objective Setting
  - Business Plan, R&M Policy, Maintenance Plans
- ❖ Equipment Plans
  - Equipment Plans Development, Plan Options, Approaches
- ❖ Preventive Maintenance & Condition Monitoring

- Types of Condition Based Monitoring, Vibration Monitoring, Pump Monitoring Frequency, Infrared Thermography, Physical Effects Monitoring, Lube Oil Analysis

❖ Advanced Maintenance Management: Work Selection
- Mission, Work Screening Procedure, Work Request Requirements, Prioritization Systems, Cost Benefit Analysis

❖ Advanced Maintenance Management: Work Planning and Scheduling
- Planning Objectives, Planning Effectiveness, Planning Metrics, Planners and Staffing, Routine Maintenance Planning, Work Plan, Planning Tools, Scheduling & Considerations, Types of Schedules, Work Execution Packages, Maintenance Backlog

❖ Advanced Maintenance Management: Proven Turnaround Practices
- Success Factors, T/A Concern Areas, Management Practices, Milestone Plan, Work Scope, Projects, Material Procurement, Process Operations, Pre-T/A Reviews

❖ Advanced Maintenance Management: Work Execution
- Objective and Actions, Job Completion, Supervisor, Contracting Types, Advantages and Disadvantages

❖ Advanced Maintenance Management: Stewardship and Performance Metrics & KPIs
- Performance Indicator Characteristics, Business Results Indicators, Process Unit Run-Length Goals, Work Management KPIs, Maintenance Effectiveness Metrics, Equipment Specific Indicators, Work Force Utilization Metrics

❖ Practical Sessions
- Practical sessions will be organized during the course for participants to practice the theory learnt. Participants will be provided with an opportunity to carryout various exercises using the "iLearnVibration" simulator

❖ Quality Assurance & Continuous Improvement
- Objectives and Implementation, Data to be Screened, Bad Actors and RCFA, Quality Audits

❖ Human Reliability
- Classification of Human Error, Human Reliability Analysis

❖ Reliability Tools
- Life Cycle Cost Analysis, Life Data Analysis ("Weibull Analysis")

❖ Reliability Engineer & Asset Management of Projects
- Key Elements of Reliability, Establish Reliability During Design, Why Build Reliability into a Project, Work Process for implementing, Overall Reliability Goals, Elements of an R&M Program, Exercises

❖ Computerized Maintenance Management Systems (CMMS)
- Components, Benefits, Implementation Plan and Issues, SAP Maintenance, Discussion: What System Installed? Are all the Features Used? How Long Did It Take to Implement?
- Do you Have SAP System? Do You Know How to Use it? What are the Difficulties You Face with SAP?

❖ Course Conclusion

❖ POST-ASSESSMENT and EVALUATION

Training Certificate(s):

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

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 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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