



# ME173: Physical Asset Management for Maintenance Excellence (ISO 55000/55001)



## Training Description:

When properly executed, Physical Asset Management can significantly impact an organization's bottom line by reducing maintenance costs, increasing the economic life of capital equipment, reducing company liability, increasing the reliability of systems and components, and reducing the number of systems and components.

This intensive training course will provide participants with the tools and methodologies to achieve maintenance excellence in their organization. The course has been designed to help managers care for their assets efficiently and effectively through sound and timely decision-making.

Further, the course will also discuss the ISO 55000 including its elements, structure and requirements for an asset management system; the benefits of adopting ISO 55000 and how it align with other management systems; the roadmap to achieve certification and subsequent business improvement; the various approaches including HAZOP and risk-based inspection; the total productive maintenance (TPM), people-centric maintenance and quality improvement; the methodologies covering asset management of projects, quantum leaps in process improvement and supplier partnering program (SPP); and the failure process and age versus reliability patterns.

During this interactive course, participants will learn to optimize human and asset performance by focusing on behavior and results; carryout balance scorecards, benchmarking and key performance indicators; identify the basic economics and the aspects of discounted cash flow used in capital equipment replacement analysis; apply present-value calculation and recognize the effects of inflation in the analysis; estimate the interest rate appropriate for discounting; calculate the equivalent annual cost (EAC) and minimize life cycle cost; recognize basic statistics and the problem with uncertainty; optimize maintenance and replacement decisions covering network system reliability and maintenance tasks; employ reliability centered maintenance (RCM); and optimize condition based maintenance decisions.

## Training Objectives:

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

- ✓ Apply a proper physical asset management system in accordance with the ISO 55000/55001 standards in order to achieve a maintenance excellence position
- ✓ Discuss ISO 55000 including its elements, structure and requirements for an asset management system
- ✓ Explain the benefits of adopting ISO 55000 and how it align with other management systems
- ✓ Illustrate roadmap to achieve certification and subsequent business improvement
- ✓ Manage risk and apply the various approaches including HAZOP and risk-based inspection
- ✓ Manage reliability through people, total productive maintenance (TPM), people centric maintenance and quality improvement
- ✓ Optimize methodologies covering asset management of projects, quantum leaps in process improvement and supplier partnering program (SPP)
- ✓ Define failure and identify failure process and age versus reliability patterns
- ✓ Optimize RCM results through root cause failure analysis (RCFA) and life cycle decisions
- ✓ Optimize human and asset performance by focusing on behavior and results



- ✓ Carryout balance score cards, benchmarking and key performance indicators
- ✓ Discuss basic economics and the aspects of discounted cash flow used in capital equipment replacement analysis
- ✓ Apply present-value calculation and identify the effects of inflation in the analysis
- ✓ Estimate the interest rate appropriate for discounting, calculate the equivalent annual cost (EAC) and minimize life cycle cost
- ✓ Recognize basic statistics and the problem with uncertainty
- ✓ Optimize maintenance and replacement decisions covering network system reliability and maintenance tasks
- ✓ Employ reliability centered maintenance (RCM) and optimize condition-based maintenance decisions

### Training Designed for:

This course is intended 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. The course is a must for those in-charge of implementing a physical asset management system in accordance with the ISO 55000/55001 standards.

### Training Program:

#### DAY ONE:

- ❖ **PRE-TEST**
- ❖ **Introduction to ISO 55000**
  - Provides an Overview of the ISO 55000 Suite of International Standards
- ❖ **Overview of ISO 55001**
  - Elements
  - Structure
  - Requirements for an Asset Management System
- ❖ **Benefits of Adopting ISO 55000**
  - The Business Case for ISO 55000 International Standards
- ❖ **Achieving Certification**
  - Roadmap to Achieving Certification and Subsequent Business Improvement

#### DAY TWO:

- ❖ **Managing Risk**
  - Risk and its Management – A Discussion of the Various Approaches Used, Including HAZOP and Risk-Based Inspection
- ❖ **Managing Reliability through People**
  - Total Productive Maintenance (TPM) – People-Centric Maintenance and Quality

#### DAY THREE:

- ❖ **Optimizing Methodologies**
  - Asset Management of Projects



- Quantum Leaps in Process Improvement – The Ten Essential Requirements for Design and RAM (Reliability, Availability & Maintainability)
- Supplier Partnering Programme (SPP)
- Definition of Failure
- The Failure Process
- Age versus Reliability Patterns
- Root Cause Failure Analysis (RCFA): Optimizing RCM Results
- Optimizing Life Cycle Decisions

#### DAY FOUR:

- ❖ **Optimizing Human and Asset Performance by Focusing on Behaviour and Results**
  - Taking Stock of your Organization: Balanced Score Cards, Benchmarking and Key Performance Indicators
- ❖ **Basic Economics**
  - Aspects of Discounted Cash Flow used in Capital Equipment Replacement Analysis
  - Present-Value Calculations
  - The Effects of Inflation in the Analysis
  - Estimating the Interest Rate Appropriate for Discounting
  - Calculating the Equivalent Annual Cost (EAC)
  - Minimizing Life Cycle Cost
- ❖ **Basic Statistics**
  - The Problem with Uncertainty
  - Dealing with Censored Data – Weibull Analysis, etc.
  - Where do you Place your Maintenance Efforts?
- ❖ **Practical Sessions**
  - This hands-on and includes real-life case studies and exercises

#### DAY FIVE:

- ❖ **Optimizing Maintenance and Replacement Decisions**
  - Network System Reliability
  - Maintenance Tasks
- ❖ **Reliability Centered Maintenance (RCM)**
  - RCM – The Analytical Decision Logic
  - Is RCM the Right Tool for you?
  - What can RCM Achieve?
  - What does it take to Implement RCM?
  - Reasons for the Failure of RCM
  - Capability Driven RCM
- ❖ **Group Exercise**
  - An Opportunity to Apply the Theory of RCM to Practical Items of Plant
- ❖ **Optimizing Condition Based Maintenance Decisions**
  - Optimizing Time Based Maintenance
  - Getting the Most Out of your Equipment Before Repair Time
- ❖ **Course Conclusion**
- ❖ **POST-TEST and EVALUATION**



## Training Requirement:

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

Please note that the above topics can be amended as per client’s learning needs and objectives. Further, it should be forwarded to us a month prior to the course dates.

## 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, Software & General Discussions
- Pre and Post Test

## Training Certificate(s):

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

## Training Fees:

**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 01<sup>st</sup> 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 - 13:30	Recess (Prayer Break & Lunch)
13:30 - 15:00	Last Session

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

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