An LDI Training Course

Modern Maintenance Management

Total Productive Maintenance and Reliability Centered Maintenance

by
Prof. Dr. Rachman Setiawan

Backround

This course is designed to give participants a comprehensive knowledge of maintenance management.

In this course, participants will learn practical skills that can be applied to the job right away, build a solid maintenance program, and increase your value to your organization.

Course Outline

Day-1: Maintenance Management

1. Introduction
   Product life cycle, Life cycle cost and sustainability, Design aspects, Maintenance basic definition and roles, Maintenance evolution, Future challenges, Time relationship, Availability, Maintainability Definition
2. Reliability Aspects
   Definition, Formula, Prediction, Reliability modelling (PBS, FBD, RBD)
3. Maintenance categories
   Corrective, Preventive, Pro-active, Predictive, Condition-Based, Prescriptive Maintenance.

Day-2: Maintenance Excellence

1. Work Management Cycle
   Work Identification, Work Planning, Work Schedulling, Work Assignment, Work Execution, Work Closing, Equipment criticality, Inventory, Material management
2. Maintenance Performance Indicators
   Prnciples, Improvement strategies, Performance measures (productivity, organization, work efficiency, costs, quality, overall maintenance results), Overall Equipment Effectiveness (OEE), ISO 14224
3. Maintenance strategies
   RAMS, Asset Life Cycle Management, Asset Integrity, Risk Based Inspection

Day-3: Maintenance Strategies: FMEA and RCM

1. Failure Mode and Effect Analysis
   Failure modes, cause, consequence, Risk Priority Number, Identify action
2. Reliability Centered Maintenance
   Introduction, Seven Basic Steps of RCM II (Function, Functional Failures, Failure modes, Failure effects, Failure consequences, Preventive action, Default action, Decision Diagram), Case Study

Day-4: Maintenance Strategies: TPM

1. Introduction
   History, philosophy, motivation, objectives, TPM House (Bussiness objectives, Eight pillars, 5S foundation)
2. Eight Pillars of TPM
   Autonomous Maintenance, Planned Maintenance, Focused Improvement, Quality Maintenance, Early Equipment Management, Training and Education, Safety, Health and Environment, Office TPM
3. Implementation
   TPM in Automotive/Manufacturing Industry, TPM in other industries, Implementation road map

Delivery Method:

Classroom within several training sessions, there will be excercises to strengthen the participants' understanding of the training materials, beside Questions and Answers.

Who Should Attend

This course will greatly benefit engineers, supervisors, and managers involved in maintenance.

Instructor's Profile:

Prof. Dr. Rachman Setiawan is a professor in Design for Reliability and Safety. He earned his Bachelor of Engineering degree from Mechanical Engineering Dept. ITB in 1996, and continued his study in 1998 to achieve his M. Sc. Degree in Mechanical Engineering Design From UMIST, UK in 1999 and Ph. D degree in University of Southampton, UK, for the research in Computational Engineering Design. He currently lectures in Fac. Mechanical and Aerospace Engineering ITB on a number of subjects, including Strength of materials, Numerical methods, Risk-based Asset Integrity, Maintenance Engineering, Design of piping, pipeline, pressure vessels, material handling equipment. His engineering concultancy experiences include, among which with, PT Timah (Tbk.), PT Pertamina (and its subsidiaries), PT. Kereta Api Indonesia (Persero) and PT Pertamina (Persero), PT KPC, etc., in the areas of: Mechanical engineering design, Structural crashworthiness, Optimisation, Piping/pipeline, Maintenance Technology and Management, etc. As an instructor, he has been involved in a number of Industrial Training, among which are: Piping and Pipeline technology, Maintenance Management, Mechanical design, and Tank and Pressure vessel technology.

This course is presented by LDITraining.