



## **SEMINAR TITLE : TPM's Planned Maintenance Four Phases To Zero Unplanned Downtime**

### **Brief Course Overview**

- This course covers the principles of TPM's Planned Maintenance 4 Phases to Zero unplanned breakdown strategy.
- Phase 1 deals with Stabilizing MTBF, main activity involved here is restoration by establishing equipment's Basic Equipment Condition
- Phase 2 deals with Addressing Equipment's Weaknesses in Design and addressing them to prolong lifespan of parts
- Phase 3 and 4 of Planned Maintenance deals w/ developing a Maintenance Tasks Selection Diagram in order to classify which parts will fall on the different maintenance tasks available
- Phase 4 of Planned Maintenance is about Predicting Failures through a system known as Condition-Based Maintenance and the use of Diagnostic tools to monitor condition of parts



### **PM4P Course Objective**

- Provide a detailed and structured approach through the application of TPM's Planned Maintenance
- Realize the importance of establishing basic equipment condition in our equipment's
- Provide an understanding on what Planned Maintenance is and what it wants to achieve
- Learn how to implement the four phases of Planned Maintenance
- Learn the 6 failure pattern and how it affects us in our day to day maintenance activities





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### Program Proper

#### DAY 1

- 0745 - 0815 - Coffee and Registration
- 0815 - 0825 - Welcome and Introduction of resource speaker
- 0830 - 0900 - Take Planned Maintenance Pre-post IQ Quiz
- 9:00 - 10:00 - **Introduction : Changing The Change The Mtce Culture**
  - Domino Effect of being reactive
- 1000 - 1015 - **Morning Break / Meals**
- 1015 - 1200 - **Module 1 : Planned Maintenance Overview**
  - Planned Maintenance defined
  - 4 Phases of Planned Maintenance
  - PM Preparatory Stage
  - Planned Maintenance Versions
  - Knowing MTBF and MTTR
  - Comparing Planned Maintenance and other maintenance systems
- 1200 - 1300 - **Lunch**
- 1300 - 1500 - **Module 2 : Phase 0 - PM Preparatory Stage**
  - Establishing PM Vision and Mission
  - Importance of Machine Ranking
  - Phase 0 Roadmap of Activities
- 1500 - 1515 - **Afternoon Break / Meal**
- 1500 - 1700 - **Module 3 : Phase 1 Stabilize MTBF**
  - The need to restore
  - Roadmap of Activities for Phase 1
- 1700 - End of Day 1

#### DAY 2

- 0745 - 0815 - Coffee
- 0815 - 1000 - Continue Module 3 : Why-why **Perform Exercise on why-why**
- Module 4 : PM Phase 2 Addressing Design Weakness**
  - Addressing design weaknesses
  - Roadmap of Activities for Phase 2

- 1000 - 1015 - **Morning Break / Meals**
- 1015 - 1200 - Understanding Wear **Perform Exercise on Wear**
- 1200 - 1300 - **Lunch**
- 1300 - 1500 - **Module 5 : PM Phase 3 Periodically Restore Deterioration**
  - Preparing FMEA
- 1500 - 1515 - **Afternoon Break / Meal**
- 1515 - 1700 - Continuation of Module 5
  - Understanding The Consequences of Failure**- Consequences Exercise**
- 1700 - End of Day 2

#### DAY 3

- 0800 - 1000 - **Module 6 : PM Phase 4 Predict Equipment Lifetime**
  - Understanding Predictive Mtce
  - P-F Curve
  - Run To Fail, Modification, Stand-by
  - Algorithm and Decision Worksheet
  - Phase 3 & 4 Roadmap
- 1000 - 1015 - **Morning Break / Meals**
- 1015 - 1200 - **PM WORKSHOP 1 : Perform PM Boardgame**
- 1200 - 1300 - **Lunch**
- 1300 - 1500 - **PM WORKSHOP 2 : Perform Phase 3 and 4 Activities**
- 1500 - 1515 - **Afternoon Break / Meal**
- 1515 - 1600 - Continue PM Workshop
  - Case Study : Planned Maintenance at Amkor / Anam
- 1600 - 1630 - Take Post Quiz on PM
- 1630 - 1700 - Starting an Improvement Reliability
- Summary and Closing**
- 1700 - End of Seminar