

## *Develop and Manage Preventive Maintenance*

### *Course Description and Outline*



#### **Introduction/Overview of the Course**

Preventive Maintenance is one of the cornerstones in a world-class reliability process. Preventive Maintenance actions prevent failures from happening and/or extend the life of components.

IDCON's Preventive Maintenance training will give your group the ability to understand how to set up and improve a whole PM system cost effectively. The understanding is based on basic reliability concepts such as failure developing, equipment life, inspection frequencies, and selection of maintenance methods together with unique documentation methods.

#### **Course Objectives/Benefits to Participant**

Participants will learn:

- To understand the concepts that drive a PM program
- To learn how to develop and implement effective on-line and off-line PM's
- To ensure the right equipment PM's are completed with the right frequency
- To manage and update their PM database

An effective PM System's should:

- Find equipment failures early to get lead-time to plan and schedule corrective maintenance without interrupting operations output
- Provide essential care of the equipment to avoid failures and extend life
- Reduce the total maintenance burden through Preventive Maintenance
- Ensure equipment components are properly inspected at the right time and in the right way

#### **Training Method**

Participants will be led through the core steps to develop, build and document the right Preventive Maintenance solution. The trainer will teach a simple to use documentation method through interactive exercises.

#### **Recommended Attendees**

Maintenance managers, reliability engineers, maintenance supervisors, and corporate reliability managers should attend this course. Experience tradespeople and other stakeholders who manage PM programs are also encouraged to attend.

## Course Outline

### 1. Results Oriented Reliability and Maintenance Management. Participants will learn:

- Circle of continuous improvement
- Reliability and maintenance beliefs
- The value of good reliability and maintenance
- Culture and leadership
- Operations and maintenance partnership
- Operator essential care
- Key performance indicators
- How to drive reliability and maintenance improvements
- Current Best Practices
- Maintenance Definitions
- Difference between failure and breakdown
- Where do you spend your time
- Preventive Maintenance program benefits

### 2. Overall Process for PM Development: Participants will learn:

- Step 1: Scope out and Prepare
  - Define the Scope of PM Review
    - The Project Charter
    - Assessing current situation
  - Generate List of Equipment
  - Criticality Assessment of Equipment & Prioritizing
    - Using Risk Based Work Selection Method
  - Collecting Information, existing PMs and History
  - Assembling the team
  - Developing Project Plan
- Step 2: Maintenance Method Selection
  - Document: Function and components
    - Divide Equipment in components and field verification
    - Subjective or objective methods
    - Essential Care
    - How does the component work
    - How does it fail?
    - How can I prevent and/or predict failure
  - Document: Failure Modes
    - What is the service function of the equipment
    - Condition Monitoring Standards (CMS)
    - Component life
    - Failure Developing Period (FDP) and inspection frequency
  - Document: Maintenance method and essential care tasks
    - Selecting the method
    - Consequence of breakdown
    - Who is going to do the maintenance tasks

- Decide on-the-run or shutdown tasks
- Documenting in PM/ECCM master spreadsheet
- Step 3: Create PM Program and Implement
  - Trial implementation and test practicality
    - Involving craftspeople and operators
  - Develop checklists, routes, and standard job plans
    - Creating PM task material
    - Inspection route sequence
    - Tools to use
    - Inspection route examples
    - Standard job plans
    - PM/ECCM process flow and responsibility
    - Scheduling PM tasks
  - Final Implementation, training and update CMMS
    - Field preparation
      - Modify guards for inspection
      - Equipment tags
      - Initial cleaning
      - Measuring points
    - Getting acceptance
      - Leadership
      - Communication
      - Training
    - Develop Key Performance Indicators
    - The technology needed to manage the PM program

### 3. Keeping the program alive: Participants will learn:

- Ongoing Feed back and continuous improvement
  - Review and maintenance of PM data
  - Triggers

### 4. Ten Practical Steps to Build your PM Program

#### *IDCON In-house Training and On-site Implementation Support*

IDCON can customize any of our training courses for your plant and provide the coaching and implementation support to ensure your organization really uses the processes to garner the best results.

#### *IDCON Training and Consulting Services*

- Leadership and Organization
- Reliability and Maintenance Assessments
- Planning and scheduling improvement
- Preventive Maintenance/Essential Care and Condition Monitoring
- Operator Essential Care
- Materials and Spare Parts Management
- Root Cause Problem Elimination