WORLD CLASS MAINTENANCE

Preventive Maintenance Best Practices plus PM Optimization

This workshop is "activity based" (hands on) with focus on "Best Practices in Preventive Maintenance"

Learn…

Preventive Maintenance Best Practices through class-room lecture, and exercises

Who should attend this course:

- > Maintenance Supervisors
- > Senior Maintenance Technicians (influential techs)
- > Maintenance Managers
- > Maintenance Engineers
- > Reliability Engineers
- > TPM Coordinators / SME

Preventive Maintenance (PM)

Actions performed on a time- or machine-run-based schedule that detect, preclude or mitigate degradation of a component or system with the aim of sustaining or extending its useful life through controlling degradation to an acceptable level.

Source: SMRP Best Practices

The Course Objectives

LEARN MORE ABOUT …

- Preventive Maintenance Known Best Practices
- Create an PM Dashboard to manage PM Effectiveness and Efficiency
- What is the number of times a PM inspection should identify a defect
- When to use a GEMBA Walk to Optimize Preventive Maintenance
- Definition of Preventive Maintenance
- Maintenance and Operator PM Alignment
- Top 10 Reasons why Preventive Maintenance does not meet expectations
- How PM Compliance can be misleading
- Learn how write an Effective PM Procedure
- Create a Continuous Improvement Process for Preventive Maintenance
- Learn how to know if a PM is effective or not
  Learn how to evaluate effectiveness and efficiency of PM Program
- Define how "Known Best Maintenance and Reliability Practices"
- Describe the Objective of Preventive Maintenance
- Execute in a group environment Preventive Maintenance "hands on" exercises
- Learn how to Measure if a Preventive Maintenance Function is effective
- How to engage Production to execute simple PMs
- Create a Proactive Preventive Maintenance Workflow Model which will assist in managing asset and process reliability
- Create Leading and Lagging Preventive Maintenance Metrics
- Define how to transition from current state to a Proactive Preventive Maintenance Function
- Define how to measure and manage change
- Learn to implement a new way of thinking by plant staff
- Gain first steps in how to Manage Change
- Create a Master Plan, with timeline for Proactive Preventive Maintenance Implementation
- Failure Modes and how to manage and mitigate them in a Proactive Environment
- … and so much more

Preventive Maintenance Leading and Lagging KPIs

Leading KPIs:
- PM Compliance (using 20% Rule)
- % of PMs with Step by Step Instructions
- % of PMs evaluated monthly

Lagging KPIs:
- Maintenance Cost
- Production Capacity
- Emergency/Urgent Labor Hours
- Stockouts
- MTBF – Mean Time Between Failures
- MTTR – Mean Time To Restore

"Leading KPIs Lead to the Results, Lagging KPIs are the Results"

Training Schedule

Introduction to Preventive Maintenance Best Practices

- Instructor and Attendee Introductions
- Expectations from each attendee
- Expectations from instructor
- Course Objectives
- Daily Training Schedule
- Why Preventive Maintenance is not working in most organizations (Top 10 Reasons)
- Proactive Maintenance Workflow Model/Process
- World Class Maintenance Case Study (Alumax/Alcoa Mt Holly – John Day PE)
- Definition of:
    - Maintenance
    - Reliability
    - Work Identification
    - Preventive Maintenance
    - Predictive Maintenance
    - Maintenance Planning
    - Maintenance Scheduling
    - Maintenance Backlog
    - Work Execution
    - Work Order Close Out
    - FRACAS – Failure Reporting, Analysis and Corrective Action System
- Preventive Maintenance Definition and Expectations
- Group Discussion – How does Preventive Maintenance Actually Work
- Expectations from PM and PdM
- What are the expectations from PM
- Failure Modes mitigation strategies
- Developing and Managing an Effective Preventive Maintenance Program
- Preventive Maintenance Workflow Process
- Steps required to develop an Effective PM Program
- Best Practice PM Procedures Example
- Preventive Maintenance Roles and Responsibilities (RACI)
- Managing a Preventive Maintenance Program
- Preventive Maintenance Leading and Lagging KPIs
- Preventive Maintenance Dashboards

Exercise: Create Definitions for Maintenance, Reliability, Preventive Maintenance, Predictive Maintenance, Maintenance Planning, Maintenance Scheduling

Group Question: 1 thing each person learned today

Preventive Maintenance Best Practices

- Review of Day 1
- Proactive Maintenance Planning and Scheduling Process and why it is critical for a successful PM Program
- Requirements of Preventive Maintenance
- Criteria for an Effective PM Procedure
- How to create Repeatable PM and CM Procedure
- Parts Requirements/Kitting Process for PM
- Definition of Kitting
- How to establish a Kitting Process
- Parts Ordered from Vendor vs Storeroom Stock
- Security of Scheduled Work Parts/Material used in Preventive Maintenance
- Requirements of Maintenance Scheduling of Preventive Maintenance
- Leaderships expectations of Preventive Maintenance
- Developing a PM Workflow process
- Preventive Maintenance Roles and Responsibilities

Exercise: Create a PM Process Map

- Best Practices
- Hydraulic Maintenance Best Practices
- Bearing Maintenance Best Practices
- Operator Care Inspections

Exercise: Create a Repeatable Procedure for Inspection of the production line Provided

Exercise: Create Preventive Maintenance Vision and Mission

- Developing an effective Maintenance Scheduling process
- Maintenance Scheduling Roles and Responsibilities
- Maintenance Scheduling Leading and Lagging KPIs
- How to Create Leading ad Lagging KPIs for Maintenance Scheduling

Exercise: Creating a Process Map for Preventive Maintenance

- Creating a RACI Chart for Maintenance Scheduling
- Lessons Learned from Day 1 and 2
- Preliminary plan to implement what you learned from the past 2 days

Preventive Maintenance Optimization

- Review of Day 2
- Two things you plan to do different when you return
- Change Management (Cultures) issues one may face when they return with new ideas about resistance to Change

Preventive Maintenance Optimization Options:

- Option 1: Maintenance Technician Review of PMs
- Option 2: Maintenance/Reliability Engineer Review of PMs
- Option 3: PM Continuous Improvement Process

Group Exercise: Option 1 Exercise

Group Exercise: Option 2 Exercise

Group Exercise: Option 3 Exercise

- Failure Modes and Failure Codes
- ISO 14224 Maintainability and Reliability Data and Dissemination
- Individual Exercise: Each Attendee Creates a PM Dashboard with Leading and Lagging KPIs
- Individual Exercise: Each Attendee Creates a Plan to optimize their PM program at their site when one returns
- Course Close Out / Course Evaluation