

PREVENTIVE MAINTENANCE BEST PRACTICES

Learn PM Best Practices
through classroom lecture,
exercises, and group Discussion

March 9-11, 2021

Southern Wesleyan University
Clemson, South Carolina
Virtual or Live

FOR MORE INFORMATION SEND YOUR REQUEST TO:

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World Class Maintenance



In Partnership With: UpKeep
The Maintenance Community

ABOUT THIS WORKSHOP

This workshop is activity based and hands-on, with focus on the “Best Practices in Preventive Maintenance”,

Best Practices in Preventive Maintenance

The Fundamentals

1. All PMs are focused on specific “Failure Modes”
2. All PM Procedures should have the following:
 - Step by Step Instructions (initial each step)
 - Specifications
 - Space available for extra information
 - Condition as found
 - Condition as left
 - Recommendation to changes to Procedure
3. When PM Work Order is given to Maintenance Techs the following should be attached:
 - Equipment Failure history since last PM Executed
4. Post the following metric in Maintenance Shop on a line graph
 - PM Labor Hours vs EM/Urgent Labor Hours



“Measure what you Manage”

An Example of the Hawthorne Effect for Behavior Change in PM using this metric

WHO SHOULD ATTEND?

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

COURSE OBJECTIVES:

Knowledge is the foundational requirement in all skills.

- Share Known PM Best Practices Definition
- of Preventive Maintenance How PM
- Compliance can be misleading
- Learn how write an effective PM Procedure
- Create a Continuous Improvement Process for PM
- Learn how to know if a PM or PM Program is effective or not
- Share Known Maintenance and Reliability Best Practices
- Describe the objective of PM
- Execute hands-on PM exercises in a group environment
- Learn how to measure if a PM function is effective
- How to engage Production / Operators to execute simple PMs
- Create a Proactive PM Workflow model to manage asset and process reliability
- Create and understand Leading and Lagging PM Metrics
- How to transition from current state to a proactive PM function
- Define how to measure and manage change
- Learn to implement a new way of thinking by and for plant staff
- Create a Master Plan, with timeline for PM implementation

...and so much more!



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DAY 1 TRAINING SCHEDULE

Introduction to PM Best Practices

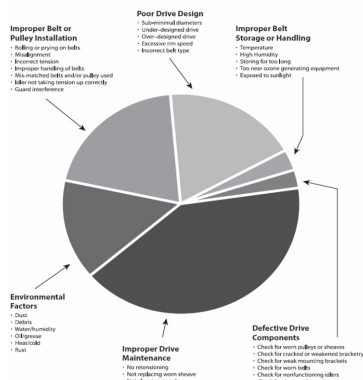
- Instructor and Attendee Introductions
- Your Current PM Program - 2 Ups / 2 Downs per attendee
- Expectations from each attendee and instructor
- Course Overview: Objectives, Daily Training Schedule Why
- PM is not working in most organizations
- Proactive Maintenance Workflow Model/Process
- World Class Maintenance Case Study (Alumax/Alcoa Mt Holly – John Day PE)
- Definition of key terms:
 - Maintenance
 - Reliability
 - Operator Care
 - Preventive Maintenance
 - Predictive Maintenance
 - Maintenance Planning
 - Maintenance Scheduling
 - Work Execution
 - Work Order Close Out
- Creation of the a Vision Statement, Mission Statement, and Guiding Principles for Successful Preventive Maintenance What are the
- expectations from PM?
- Failure Modes and mitigation strategies
- Developing and Managing an Effective PM Program PM
- Workflow Process
- Steps required to develop and manage an effective PM Program Best
- Practice PM Procedures Example
- PM Roles and Responsibilities (RACI)
- Managing a PM Program
- "Walk by" PMs
- PM Leading and Lagging KPIs and KPI Dashboards Group
- and Individual Exercises:
 - Create a PM Dashboard
 - One thing each person learned today

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DAY 2 TRAINING SCHEDULE

Maintenance Planning

- Review of Day 1
- PM and the PF Curve
- Maintenance Planning definition, requirements, and expectations
- Proactive Maintenance Planning and Scheduling Process and why it is important for a successful PM Program
- PM Vision Statement, Mission Statement, and Guiding Principles Operator
- Care and PM
- Repeatable Procedure definition and how to create Why
- Repeatable Procedures are critical
- Examples of Repeatable procedures for PM Parts requirements
- Definition of Kitting and how to establish a kitting process Parts
- Ordered from Vendor vs Storeroom Stock
- Security of Scheduled Work Parts/Material
- Group and Individual Exercises:
 - Create PM Vision Statement, Mission Statement, and Guiding Principles Create a
 - PM Repeatable Procedure for a given example asset
 - Create a Process Map for PM
 - Create a RACI Chart (Roles and Responsibilities for PM) Create
 - a PM Procedure for a specific asset at your site



Example of Proactive PM Procedure

Equipment Name	Location	Frequency	Task	Time	Priority	Cost
Equipment Name	Location	Frequency	Task	Time	Priority	Cost
<p>Procedural Description:</p> <p>1. Check area to be inspected only compressed air or electrical discharge</p> <p>2. Check for any loose parts or debris on the machine</p> <p>3. Check for any damaged parts or worn parts</p> <p>4. Check for any missing parts</p> <p>5. Check for any missing guards</p> <p>6. Check for any missing labels</p> <p>7. Check for any missing instructions</p> <p>8. Check for any missing safety devices</p>						



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DAY 3 TRAINING SCHEDULE

Maintenance Planning and Scheduling Alignment

- What's one thing you learned so far?
- Benefits of a PM Optimization
- PM Optimization example
- PM Optimization Process
- Benefits of a PM Optimization Process
- Expectations of a PM Optimization Process
- Which asset or assets to perform a a PM Optimization (PMO)
- Principles for performing a PMO on a specific asset
- Example of a PMO and the results
- Steps to success in the PMO Process
- Best practices / lessons learned in PM Optimization
- Group and Individual Exercises:
 - PM Best Practices Exam PM
 - Optimization Process
 - Project Plan for when you return
- Final Exam
- Course Close Out / Evaluation

PM Optimization Process

1. Identify which asset or functional area the PM Optimization will be executed
2. Identify a cross functional team (Operator, Maintenance Tech, Reliability Engineer, Maintenance Planner)
3. Establish expectations from everyone engaged in this process
4. Define end goal of this process
5. Define how you will measure if the PM Optimization Process is effective or not
6. Present copies of PMs to all parties
7. Review equipment history for the past 30, 60, and 180 days
 - # of breakdowns
 - Causes of critical breakdowns based on a formal RCA
 - PM Labor Hours vs EM/Largest Labor Hours
8. Go step by step for PM Procedure and identify the following of each task

PM Evaluation / Optimization Results			
Optical Reconstruction	# of Tasks	% of Total Tasks	Labor Hours
Pre-Work - Safety Task	1,740	15.0%	3,800
Pre-work to Lock Out	1,187	10.0%	3,880
Planning to Transfer Task	3,490	30.1%	4,997
Pre-work to Start	1,820	15.9%	4,876
On-Work Task	2,287	20.0%	11,240
Task to Stand as Freed	2,290	20.0%	6,900
Final Work to Close	1,210	10.6%	4,000

Crawl – Walk – Run Methodology



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“*Such a fun, engaging, and informative course! I learned so much in only a few days.*”

- Caitlyn Young, CMRP

HOW TO ENROLL:

Complete the "Attendee Registration Form" on the next page and email your completed registration page to rsmith@worldclassmaintenance.org.

October 19-21, 2020

Southern Wesleyan University

Clemson, South Carolina

Virtual or Live

Cost: \$750 per person. If you are signing up for two or more people, the cost is \$650 per person.

Go to worldclassmaintenance.org for more information. You'll also find free, downloadable resources at worldclassmaintenance.org with no email required.

Connect with us on social media:

Email: rsmith@worldclassmaintenance.org

LinkedIn: [Ricky Smith, CMRP, CMRT, CRL](#)

Twitter: [@RickySmithCMRP](#)

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Workshop Registration

Workshop: Preventive Maintenance Best Practices plus PMO

Dates: October 19-21, 2020

Time: 8:30 – 4:30 ET

**Location: LIVE: Southern Wesleyan University – Central, SC
or Virtual via Internet**

Cost: \$750.00 USD

Attendee Name: _____

Position: _____

Company Name: _____

Credit Card

Name on Card: _____

Credit Card Number: _____

Expiration Date: _____

CVV: _____ (numbers on back of card)

Purchase Order (Terms Net 10) _____

Company Name: _____

Address: _____

Check: ___ Make checks out to “World Class Maintenance”

Questions? Rsmith@worldclassmaintenance.org