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PARTNERSHIP WITH
THE MAINTENANCE
COMMUNITY BY UPKEEP

14 STEPS OF A PREVENTIVE MAINTENANCE OPTIMIZATION PROCESS (PMO)

BY RICKY SMITH CMRP

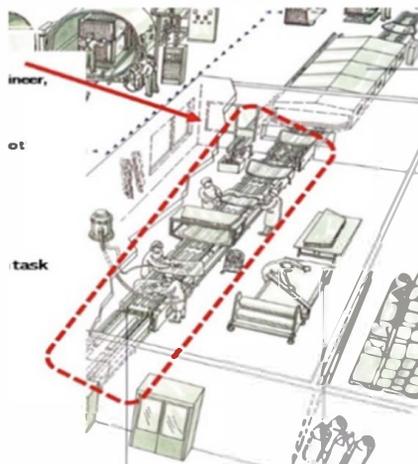


14 STEPS OF A PMO PROCESS

Step 1: Establish a baseline using current metrics or data from maintenance and production/operations.

Asset	PM Compliance "20% Rule"	Schedule Compliance	EM/Urgent Labor Hrs.	Maintenance Rework	Less than 6 Minute Stops
Chipper	56%	56%	232	32	14
Extruder	67%	75%	321	8	22
Septet	25%	34%	98	45	38
Crimper	88%	88%	74	12	23
Baler	45%	34%	129	38	18
Strapper	100%	100%	13	7	2

Step 2: Identify which asset/functional area the PM Optimization will be executed.



14 STEPS OF A PMO PROCESS

Step 3: Identifying a cross-functional team (Operator. 2 Maintenance Tech, Reliability Engineer. Maintenance Planner. etc.).

Step 4: Establish expectations from everyone engaged in this process.

Step 5: Define the end goal of this process.

Step 6: Define roles and responsibilities for all members of the PMO Team.

PM Evaluation / Optimization Results

PM Eval Recommendation	# of Tasks	% of Total Tasks	Labor Hrs. Represented
No Value – Delete Task	1,740	15.2%	1,832
Reassign to Lube Route	1,167	10.0%	3,980
Reassign to Operator Care	1,889	16.1%	4,987
Replace with PdM	1,983	17.3%	4,876
Re-Write Task	2,387	20.8%	11,043
Task is Good as Found	2,289	20%	3,923
Total PM Tasks	11,455	100%	30,641

Step 7: Define how you'll measure if the PM Optimization process has been effective or not.

14 STEPS OF A PMO PROCESS

Step 8: Present copies of PMs to all parties.

Preventive Maintenance Procedure Example

Equipment Block ID:
Line 101

Equipment Hierarchy:
E560XX Septet Process Line

Project Description:
Perform PM on Septet Process Line

Job Description:
Perform PM on Hydraulic System

Frequency: Monthly

Estimated Craft Hours: 2 techs x 3.0 hrs Estimated Elapsed Time: 3.0
Estimated Production Downtime: 3.0

Originator: Dave Stone Origination Date: 03/12/2012
Owner: Plant Maintenance Version #: 1.0
Previous Version(s) Modifications:
Approval: DS Version #: 1.0

Warnings: Failure to follow instructions could lead to death or serious injury
Cautions: Failure to follow procedure could result in early equipment failure

Personal Protective Equipment Required: Gloves, face shield, hearing protection

Part # (Stores ID)	Part Description	Quantity	Quantity Description
#B3214	Hydraulic Filter	2	Each
#B2543	Zinc Anode	1	Each

Consumables Needed:
Degreaser, lint free towels, thread seal

Special Tools Required:
1/2" Torque Wrench

Mobile/Special Equipment:
None

Required Departmental Coordination:
Production Line shutdown / Hydraulic Cylinder Extended / One Operator to Assist Maintenance
Other Procedures Referenced:
Job Preparation / Lockout Procedure #XXX

Preventive Maintenance Procedure Example

Step#	Description	Craft	# of Crafts	Clock Hours	Craft Hours	Craft Initials
1	Inspect Hydraulic System Running • Does the Pressure Fluctuate more than 5psi? Yes / No • Number of Hydraulic Leaks	Mech	2	.5	1.0	
2	Lockout/Tagout Hydraulic System Caution: Failure to Clean inside reservoir will result in premature valve failure	Mech	2	25	.5	
2	Clean inside Reservoir with Lint Free Rags	Mech	2	1.0	2.0	
3	Replace Hydraulic Filters (2)	Mech	1	0.3	0.3	
4	Torque Fasteners on Filter Fasteners to ()					
4	Replace Zinc Anode on Water Cooled Heat Exchanger	Mech	1	.5	.5	
5	Inspect 5 Hydraulic Hoses for wear or leaks • Hose 1.1 Yes / No • Hose 1.2 Yes / No • Hose 1.3 Yes / No • Hose 1.4 Yes / No	Mech	2	1	2	
6	Inspect Hydraulic Cylinder for Leaks • Inspect Rod Seal for Leaks (Circle One) No Leaks Weeping Oil Oil Stream • Inspect Rod Yoke for break in thread seal on threads Breaks? Yes / No	Mech	1	0.3	0.3	
7	Inspect all work after production is up to rate "Do not leave equipment until production is up to rate"	Mech	2	.5	1.0	
TOTAL Hours				4.35	7.0	

Condition (As Found):

Condition (As Left):

Preventive Maintenance Procedure Example

Comment(s) / Findings:

Craft's Feedback on Procedures:

Craft's Signature(s):

Date:

Step 9: Review equipment history for the past 30. 60. and 180 days. This includes:

- Root Causes of critical breakdowns
- PM Labor Hours vs. EM/Urgent Labor Hours.
- PM Compliance vs OEE
- Rework

Join Ricky virtual (Internet) for ...

14 STEPS OF A PMO PROCESS

Join me for "PM Best Practices plus PM Optimization Virtual (via internet, "Zoom") Workshop"



Preventive Maintenance "Best Practices plus PM Optimization" July 20 - 22, 2021 www.worldclassmaintenance.org

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- Learn...**
- Preventive Maintenance Known Best Practices
 - Create an PM Dashboard
 - The number of times a PM inspection should identify a defect or abnormality
 - 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 and what to do not about it
 - How PM Compliance can be misleading
 - Learn how write an Effective PM Procedure
 - Learn how to know if a PM is effective or not
 - Describe the Objective of Preventive Maintenance
 - Execute in a group environment Preventive Maintenance "hands on" exercises (over 20 exercises)
 - Learn how to Measure if a Preventive Maintenance Function is effective
 - How to engage Production to execute simple PMs
 - Create Leading and Lagging Preventive Maintenance Metrics
 - Define how to transition from current state to a Proactive Preventive Maintenance
 - Learn and Practice how to conduct a PM Optimization in your plant/facility
 - ...and so much more

Interested in more information? Send an email to rsmith@worldclassmaintenance.org

Step 10: Review current PMs and PdMs for these reasons:

- PM procedure may need to be rewritten
- Training may be required
- PM frequency may be inaccurate and need adjustment
- Checking if equipment is in "maintainable condition"

Step 11: Rewrite PMs or write new PMs

Step 12: Monitor and measure to ensure new PMs are effective and adjust as needed.

Step 13: Post results for all to see.

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Step 14: Once concept has been proven move to the next asset/area.