

HOW TO OPTIMIZE YOUR MAINTENANCE ORGANIZATION

BY: **RICKY SMITH,
CMRP, CMRT, CRL**



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In the Maintenance and Reliability Industry, the definition for “Proactive” is:

- To act before the cost of doing so increases
- To act before the necessity of the situation demands it.

“A great maintenance manager sees the relationship of poor performance and the lack of good maintenance routines.”

“Poor performance always leads to the lack of maintenance routines or poor execution of existing routines.”

- Rick Mullen, Former Global Maintenance and Reliability Leader, Anheuser-Busch InBev



Mr. Mullen’s statements above helps drive home the fact that a maintenance manager holds the key to a plant, site, or mine’s success. That person’s knowledge of the site’s maintenance strategies, how they are executed, and their effectiveness is key to a successful maintenance manager. It is also the difference between high performing and poor performing operations.

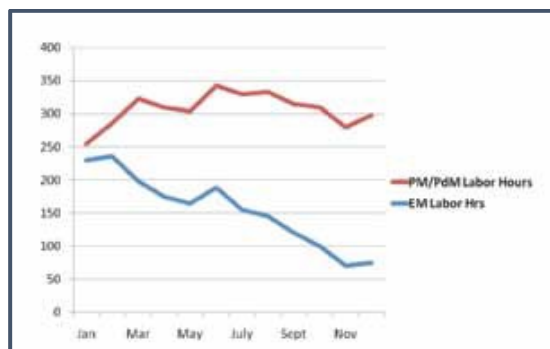


Figure 1

Think about Rick Mullen’s statement and its relation to Figure 1



11 Maintenance Leadership Principles

Think about the goal of a maintenance leader and the leadership principles they should follow in order to be effective to ensure that all maintenance personnel are aligned and executing the company's proactive work to standard so that the company meets its business goals 100% of the time.

In order to change the current state of an organization leadership must lead the organization using the right philosophy.

Step 1: Educate Leadership in "Known Maintenance and Reliability Best Practices"

Maintenance and Reliability Best Practices Workshop

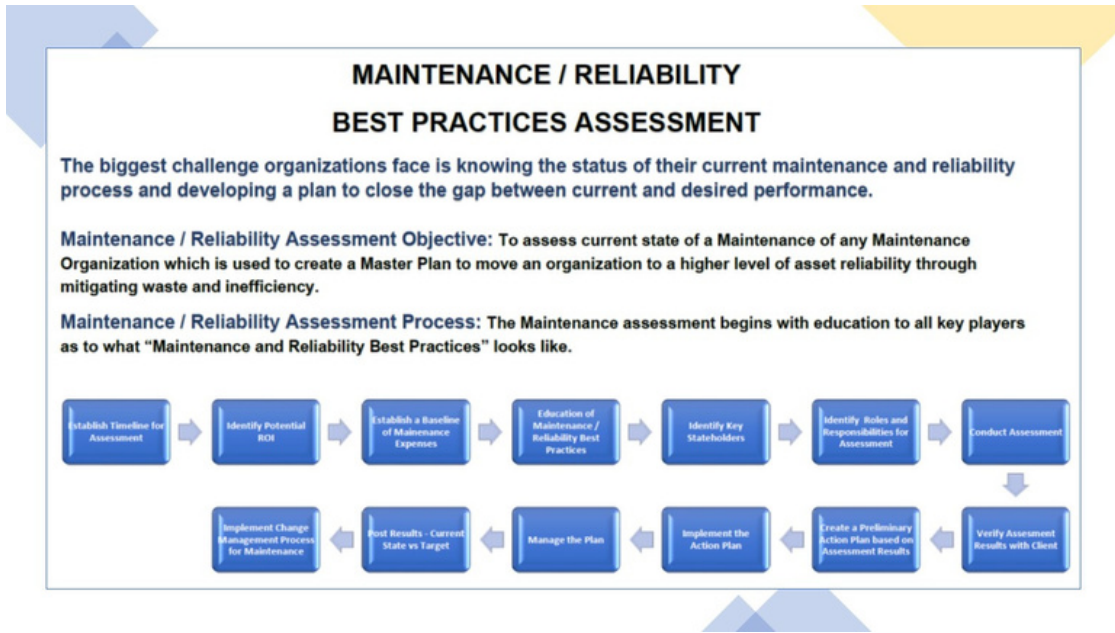
Facts concerning the training:

1. All content focused on Known Maintenance and Reliability Best Practices
2. Sharing of known attributes of "World Class Maintenance"
3. Learn how create a Maintenance Dashboard which provides data to support transformation and sustainment of Proactive Maintenance using Leading and Lagging KPIs
4. Knowledge sharing in the following using classroom participation and exercises:
 - ❖ Maintenance/Reliability Best Practices in...
 - Maintenance Planning and Scheduling Best Practices including Assessing Current State of the Maintenance Function
 - Preventive / Prediction Maintenance Best Practices
 - Work Execution to Specifications
 - Maintenance Materials Management
 - Maintenance Technician Best Practices
 - Managing Based in Data (scorecards)
 - Failure Reporting


Alcoa Mt Holly – World Class Maintenance Standard

Example of Maintenance/Reliability Best Practices Training

Step 2: Assess the Current State of your Maintenance/Reliability Function to identify gaps between current state and proactive state.



“If You Fail to Plan, You are Planning to Fail” – Benjamin Franklin

Step 3: Create a Plan using the Crawl/Walk/Run Methodology

The Crawl/Walk/Run Methodology Guiding Principles

The approach is simple:

1. The objective is sustainment of each step in the maintenance transformation approach.
2. Each step must be meet its goal before moving to the next phase (if not sustainable it will fail to meet management’s expectations).
3. The first step or “Crawl Phase” requires quick wins which are simple but makes a large impact on everyone. I call this phase “The Awareness Phase” and requires a Maintenance Dashboard to measure progress.

“You cannot manage what you do not measure”
- Peter Drucker

4. The “Walk Phase” is actions which requires everyone having same knowledge and acceptance in Maintenance and Reliability Best Practices.
5. The “Run Phase” is the sustainment and continuous improvement phase.

The Crawl/Walk/Run Methodology is simple approach to change
“Crawl before you walk, Walk before you run”



“A Maintenance Plan must be Posted and Progress Shown for all to See”

Step 4: Identify and Implement Quick Wins based on the plan

EXAMPLE

Morning:

1. The maintenance manager begins the day by spending 30 to 60 minutes visiting with each maintenance supervisor for five minutes after their shift has begun to look for abnormalities from the past 24 hours that may impact this week’s production goal or maintenance’s schedule.

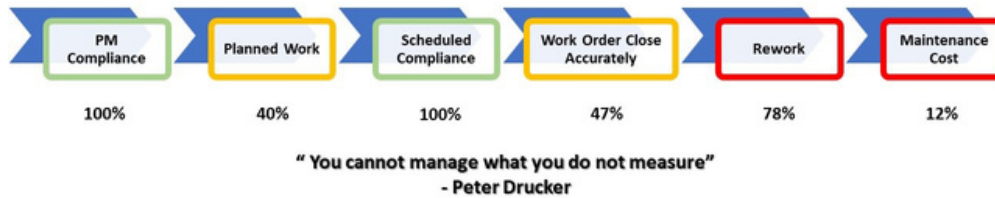


2. Breakdown last night online one caused production loss of 12,000 units of production because of loose bolt; investigation initiated by maintenance engineering; one mechanic assigned to assist ME. Report due to maintenance manager within 48 hours when the loss exceeds a specific amount.

3. Production Manager Informal Meeting (10 to 15 minutes max): The maintenance manager meets with production management first to determine if any issues have occurred in the past 24 hours that he or she was not aware of, or any issues that may arise within the next 24 hours. They both review the 24-hour production rate, quality and problems.



4. Key Performance Indicator Review (10 minutes): Next, the maintenance manager takes a quick look at the maintenance Key Performance Indicator (KPI) dashboard to see if any problems exist or may happen in the next week to one month.



There should be KPI owners listed on the dashboard who will send a report to the maintenance manager if a KPI is acting in a state that maintenance and production leadership would consider unacceptable, along with an exception report for any exceptions to expectations. Here are some examples of what a maintenance manager looks for in a key performance indicator review:

- Emergency versus PM/PdM labor hours (is the PM/PdM program working?)
- Mean Time Between Failure (MTBF) of critical assets
- Production/Quality rate stability
- MTBF by maintenance supervisors' areas
- Preventative maintenance (PM) compliance using the 10% rule on critical assets by crew
- Schedule compliance
- Safety incidents and near misses within the past 24 hours.
- Exception reports are sent to the maintenance manager if any of the above metrics are not within the agreed upon range.

5. Plant, Mine, Operations Site Manager Meeting (30 minutes max):

The maintenance manager takes about 10 minutes to describe any issues within the past 24 hours that caused losses or issues that may cause losses in the next seven days. If additional time is needed to discuss these items, this should be addressed outside of this meeting with specific individuals.

6. Plant Visit: Randomly, the maintenance manager should visit each crew area to see what is happening. Sometimes, a picture truly is worth a thousand words. The maintenance manager first talks with the maintenance supervisor to review any issues he/she is facing and need to be resolved.

A meeting time to discuss the issues may be scheduled later in the day, or on another day, depending on the importance to the maintenance supervisor. While on the visit, the maintenance manager greets everyone and asks

operators and maintainers how things are going. The maintenance manager generally spends no more than 30 minutes in each crew area.

Organization Principles

- Randomly check on planning, scheduling, storeroom and tool storage areas.
- Require wrench time studies be conducted of each crew by specific crew members after they have been trained and certified in the process.
- These should be conducted every three to six months depending on previous trends.
- All reports should be presented to the maintenance manager by the maintenance supervisor and no one else. This should be a private conversation.
- Ensure that work order data is under control and providing accurate reports.
- Ensure that a Failure Reporting, Analysis and Corrective Action System (FRACAS) is owned by each maintenance supervisor and request monthly reports from them.

Management Principles

- Guide your organization through the use of KPIs so you know your group is headed in the right direction.
- If a KPI is driving in the wrong direction, initiate a team to identify the problem and recommend a solution within 48 hours.
- Post only KPIs that may be important to each maintenance crew.
- Require a 30-minute Single Point Lesson to be presented and discussed by each crew on a weekly basis. These training workshops should be technical in nature, not safety related.



SINGLE POINT LESSON

V-BELT MAINTENANCE 101

BY RICKY SMITH, CMRP

In Partnership With:
The Maintenance Community by UpKeep

- Safety meetings should be scheduled separately.

- Roles and Responsibilities should be well defined

Proactive Maintenance "Roles and Responsibilities"								
Task	Position	Prod Mgt.	Maint Mgr.	Maint Super	Stores	Maint Tech	Maint Planner	Oper.
Write a Work Request		I	A	R		R	R	R
Convert to Work Order		I	A	R	C	I	R	I
WO Charged to an Asset			A	R		C	R	C
Maintenance Planning		C	A	C		C	R	
Maintenance Scheduling		C	A	C	C		R	
Work Execution		I	A	R		R		
Work Order Data Input			A	C		R	R	
Work Order Close Out		C	A	C	I	C	R	I
Maintenance KPIs		I	A	C			R	

Responsibility: "the Doer" (could be more than one)
 Accountable: "the Backstop here" (One person only)
 Consulted: "two-way communication" (in the Loop)
 Informed: "one-way communication" (kept in the picture)

Maintenance and Reliability Engineering should have direct access to the maintenance manager during specific hours of the week and exceptions should only be made on an emergency basis.

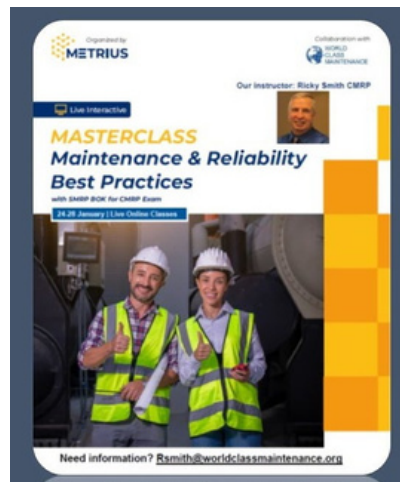
“Maintenance managers hold the key to success or failure of any maintenance organization”

If the manager is weak, then he/she must be given assistance first and only removed from the position after a three-month period of not showing improvement.

Proactive Maintenance Managers are the unsung heroes of any organization.

People look up to them with respect and calmness, even in tough situations. It's a difficult job, but maintenance managers who feel they have areas that need further development should find a mentor to assist them. Just be sure the mentor is competent and studious.

Questions? Contact me at rsmith@worldclassmaintenance.org



#1 Software for Maintenance & Reliability Teams

UpKeep is a service-first company that builds software designed to make maintenance easier for technicians and managers everywhere. Reduce downtime up to 18% by switching over to a preventative maintenance solution!

www.upkeep.com

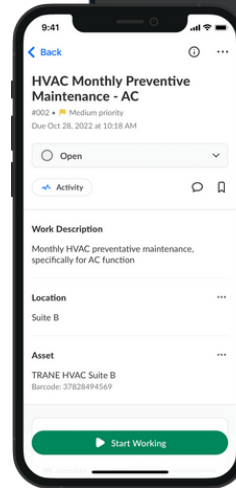
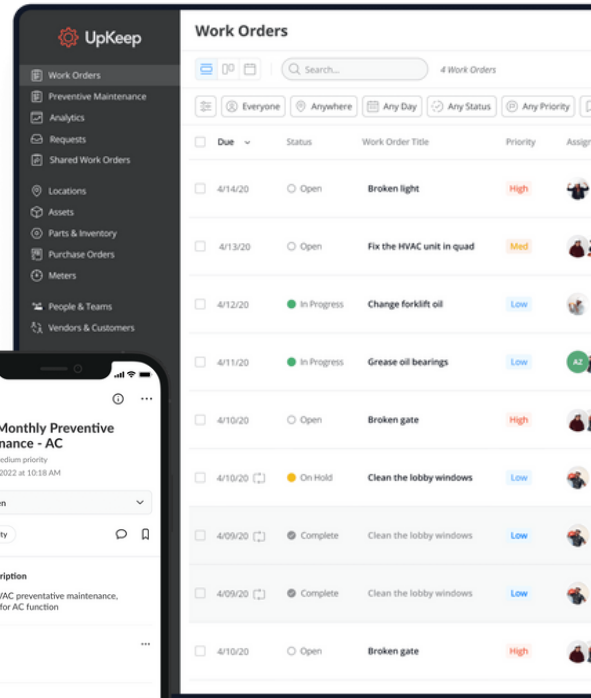
Our Products



Mobile-first maintenance management and collaboration across all location, assets, and teams

With nearly 340 different machines in our work environment, it's an impossible task to manually assign and track PM's. **With UpKeep we can schedule regular maintenance without overlapping tasks with other critical jobs."**

★★★★★ Paul D, Health and Safety Coordinator



An end-to-end solution for remote condition-based monitoring

Connected and secure IoT sensors for real-time remote condition asset monitoring



Integrated & Centralized Data Ecosystem for World Class Asset Operations

The only purpose built Asset Data Platform. Asset Focused ELT Solution for advanced analytics and integrated, real-time asset data.

The Maintenance Community Coalition was founded on the belief that working together will benefit everyone within our community

Committed to helping each other thrive in our individual professional journeys by sharing resources and expertise, granting scholarships, hosting events, and unlocking knowledge – always at no cost.

