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Pop Quiz ...

In the next 10 seconds, close your eyes and recite your maintenance department’s mission statement. Ready ... 3-2-1 ... Go!!!
Probably 99 percent of you sat in complete and utter silence during those 10 seconds. But before you go off feeling guilty about being a subpar employee, you should really think about just what makes your mission statement so unmemorable. If one had to guess, more than likely it is too long and filled with vague buzzwords that make absolutely zero impact in how you approach your work.

At this point, you are probably thinking, “Okay, tell me what is the perfect mission statement for a maintenance department.” Well, since you asked nicely, here it is ...

“Get the Bugs Out!”

It is simple (four words max).
It is concrete (everyone has seen thousands of bugs in their lifetime).
And most importantly, it creates a mind-set for how every person, from the maintenance lead to the mechanic, should approach every minute of their workday. Essentially, if you are doing something that is not going to help you “Get the Bugs Out,” then you should not be doing it.

The Origin

“Get the Bugs Out” is a phrase a top mechanic said in 2012 while playing The Manufacturing Game®.

For those of you unfamiliar with The Manufacturing Game, it is a board game that simulates the operation and maintenance of an actual production or manufacturing facility. While most of the game details can be found in Winston Ledet’s novel, “Don’t Just Fix It, Improve It!” here is a brief explanation of the key points to help make the connection with “Get the Bugs Out.”

The main premise of the game is to drive a culture of defect elimination from the bottom-up by empowering employees to eliminate defects they see every day that cause disruptions to production. The game does an excellent job of making defects visible by marking them as red poker chips with bugs on them. The color of the bug represents the origin from which the defect came, such as contaminated raw materials, incorrect equipment design, improper operations, inadequate maintenance materials, or poor workmanship.

By playing the game, employees experience the impact eliminating defects (aka getting the bugs out) has on them getting control over their facility. It is exactly why the mechanic mentioned, “We need to ‘Get the Bugs Out.’” This mechanic quickly realized that the more bugs in the facility, the less control employees had over their own operations.

The Uptime Elements

One of the major benefits of The Manufacturing Game is that it introduces several of the Uptime Elements. Not only do game participants learn what some of the elements are, but they get to make a choice as to whether or not to apply the methodologies to their facility.

Having that choice is critical because it lets them experience for themselves the impact of using or not using one of the elements.

Here are some of the choices they have to make, with the corresponding Uptime Element in parentheses:
Do we use asset condition management (ACM) to prevent unexpected breakdowns?
Do we use a computerized maintenance management system (Cmms) to plan and schedule (Ps) work orders to reduce the number of defects (bugs) added by rushed work and incorrect materials?
Do we have our maintenance, repair, operations (Mro) department coordinate with maintenance and operations to ensure we have the right parts at the right time?
Do we invest in operator-driven reliability (Odr) to help reduce operations-induced defects (bugs)?
Do we utilize key performance indicators (Kpi) to help determine the main source of our defects (bugs)?
Do we utilize human capital management (Hcm) as the driver to set up programs, like preventive maintenance optimization (Pmo) and competency-based learning (Cbl), to help drive out even more defects (bugs)?

**Finding the Bugs**

Asset condition management (ACM) and Odr can help you spot the bugs early enough on the P-F curve to avoid a catastrophic failure. If you catch the bug early enough, you may even have enough forensic evidence left to help you find the source of the bug. For example, caught early enough with vibration analysis, the wear patterns on a bearing could tell you the source of the bug was misalignment.

**Finding the Source of the Bugs**

Root cause analysis (Rca) and reliability engineering (Re) can help you determine the true source of the bug. Knowing the true source can help you stop it from coming back the next time.
Efficiently Removing the Bugs
Planning and scheduling (Ps) and Mro can help you remove bugs as efficiently as possible. If your facility is riddled with bugs, you don’t have time for mechanics to search the plant for three hours for an agitator seal, only to wait another two hours for operations to de-energize the vessel and get the permits ready.

Preventing Bugs From Coming Back
Competency-based learning (Cbl) and Odr can help correct the work habits that caused the bugs to enter your system in the first place. It does you no good to use RCA to tell you the bearing failed due to over lubrication if you do not provide your mechanics or operators with the right tools, time and training to lubricate things properly.

Criticality analysis (Ca) and Pmo can be used to ensure the right preventive maintenance (Pm) tasks are executed on the right equipment at the right time. While you cannot PM your way out of every problem, it will help you minimize the bugs that come in due to normal wear and tear. (Not coincidentally, you give yourself a good chance of letting equipment last long enough to see normal wear and tear if you utilize Cbl and Odr.)

Prevent Bugs From Ever Coming In
Reliability-centered maintenance (Rcm), failure mode and effects analysis (Fmea) and capital project management (Cp) are all very effective ways to get ahead of problems before they are ever introduced. If you identify how bugs can “infect” your process early enough, systems can be created so the equipment can be designed, operated and maintained with minimal introduction of defects.

Providing the Platform for Bug Removal
None of the previously mentioned actions are possible without leadership for reliability (LER).
- Executive sponsorship (Es) provides the resources (e.g., time, people, funding and tools) to eliminate the bugs.
- Human capital management (Hcm) ensures the people eliminating the bugs will be seen as more important assets than the “assets” themselves.
- Integrity (Int) ensures the bugs are being removed for the right reasons...to protect the well-being of the people in the company and the customers they serve.

Your Mission
After reading this article, go and make it your personal mission to help your site “Get the Bugs Out” with the help of the Uptime Elements. Trying to do one without the other is like trying to make a ham sandwich without the ham or the bread. It is just not possible.

George Mahoney currently acts as the Reliability Excellence Lead for Merck in North and Latin America. In addition, he serves as mentor, sponsor and instructor for Merck Six Sigma. He is an expert at making lean methodologies and continuous improvement a part of everyday life for an organization. From the shop floor to the executive board meeting, George will find a way to eliminate non-value added work so you can focus on what is important without distraction.

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