What's your definition of maintenance?

One of the most frequent remarks we hear from students taking maintenance crafts classes is: "Managers don't want it done right. They just want to get it running again." Such comments indicate that the students and their managers don't truly understand the definitions of maintenance. Even in our current enlightened age of machine reliability, this misunderstanding is prevalent throughout industry. Unfortunately, before we really can progress in achieving the reliability required of our machinery, this dilemma must be solved.

A case in point

Suppose a craftsperson attends a class on drive-belt installation. In the class, the craftsperson is taught that the proper way to install belts is to reduce the shafts' center-to-center distances and then place the belts on the pulleys. He/she is instructed to never roll the belts onto the pulleys.

Upon returning to the plant, the craftsperson receives a call from operations stating that a set of belts is smoking and must be replaced. There are only two hours left in the shift, after which, the plant will be down for eight hours. Remembering what was taught in the belt installation class, the craftsperson decides to follow the standard learned in class. Arriving at the machine he/she notices that the motor mounting bolts are rusted and cannot be easily loosened. In fact, they may have to be replaced, too.

To follow the class standard would add over an hour to replacing the belts, as opposed to cutting off the old ones and rolling on the new ones. The production manager is hovering over the craftsperson, urging that he/she get the drive up and running again. What is this individual to do? What is the proper thing to do?

In order to please the operations manager, the craftsperson decides to cut off the old belts and roll on the new. The machine is soon up and running again and the production manager pats the craftsperson on the back—congratulations for a job well done. But, the craftsperson doesn't feel good about what has just happened, and even worries that the belts may fail because cords could have been broken in the process of rolling them onto the pulleys.

Implications
Let's consider all the implications of performing the belt installation in the previously described manner.

- The craftsperson performed substandard work.
- The new belts probably were damaged and could fail again, leading to more downtime.
- The job probably will have to be performed again.
- The operating crew saw the craftsperson performing substandard work.
- The premature failure of the new belts could place the craftsperson in jeopardy for not performing the job to the standard for which he/she was trained.
- The sign hanging in the work area encourages personnel to "Do it right the first time," something that was not done here. The craftsperson's morale falls another notch.

Solutions
People are constantly faced with such dilemmas because of a basic misunderstanding that permeates industry. In order to arrive at the proper solution, let's revisit the belt replacement and consider some additional information.

The craftsperson arrives at the machine and surveys the situation. There is much to be said for the slogan, "Do it right the first time," and this individual considers doing maintenance on the machine by installing the belts according to the standard learned in the training class. He/she notes that there are only two hours left in the shift after which the mill will be down for eight hours. The belt failure has the production line down and the cost of lost production is $5000/hr. The cost of new belts is $400. Labor costs also will be incurred.

The craftsperson is knowledgeable of all costs and considers them. It is likely that the belts would be damaged in the process of rolling them onto the pulleys, resulting in rework. That would mean another set of belts at a cost of $400 plus labor. Not doing the job right the first time would likely double the cost of replacing the drive belts, making the total costs approximately $1000. There also is the risk of premature failure due to possible belt damage during the installation.

Having this information and knowing that the primary goal is to make profit for the company, the craftsperson weighs the costs and the risks. He/she decides NOT to perform maintenance work. Maintenance work is always performed to a standard of precision—and it requires time. The

craftsperson makes this good faith decision based on the information at hand and decides to perform stopgap measures in order to resume production. He/she announces to the operating crew that maintenance will not be performed on the drive at this time, but that the belts will be rolled onto the pulley so production can start up again. Reasons for this decision are discussed with the production manager and agreement is sought.

After the production line is up and running, the craftsperson notes in the work order why the decision was made to do substandard work. He/she also initiates a follow-up work order detailing the work required to bring the machine up to plant standards.

Understanding

There clearly is confusion in industry over the true definition of “maintenance.” When we see a craftsperson using the tools of his/her trade to perform tasks on machinery, we automatically assume that maintenance work is being performed. Frequently this is not the case. He/she simply may be attempting to resume production.

Craftspeople and managers both need to know the difference between performing maintenance work and performing tasks directed at resuming operations. Only by having adequate information and knowledge can we make informed decisions that will result in the company goal of making profit. Training, coupled with improved communications, will help to erase The Great Misunderstanding.

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