



THE BREAKDOWN OF MAINTENANCE

Proper machine maintenance is essential to ensure a healthy bottom line in the manufacturing sector

BY JOHN KRAVONTKA

Manufacturing has long been a linchpin of our economy. America's greatest economic gains have traditionally been led by our manufacturing economy. And today, after taking a severe hit during the Great Recession, manufacturers are back on the move. According to the National Association of Manufacturers, in the most recent year for which data is available (2012), manufacturers contributed \$2.03 trillion to the economy, which accounted for 12.5 percent of GDP. Furthermore, manufacturing accounts for 17.4 million jobs in the United States—or about 1 in 6 private sector jobs.

In spite of the gains made in recent years, challenges still remain for manufacturers. One of the greatest, and one that is nearly universal within the manufacturing economy, is maintenance within the manufacturing process. The sad reality is that most manufacturers struggle to properly maintain the equipment on which they rely every day. As a result, they frequently suffer from safety, reliability, and productivity shortcomings.

This is a pervasive problem throughout the manufacturing sector. Approximately 20 percent of manufacturing companies have effective maintenance programs in place to keep their equipment and related systems operating properly. The financial implications are sobering: American businesses lose more than \$500 billion every year to equipment breakdowns or inefficiencies and the inevitable loss of productivity that comes with those breakdowns.

Trouble Starts at the Top

Typically, maintenance troubles start at the top, with companies' leadership. Executives often view maintenance as

a line item to be reined in rather than an essential element of the company's operations. However, cutting back on maintenance is a costly mistake that brings significant financial and operational losses.

Having a maintenance strategy is crucial. Effective maintenance keeps equipment running properly, keeps production schedules on target, and provides a safer work environment. And contrary to the conventional wisdom in the corner office, when it comes to the bottom line, maintenance can actually save companies significant money by avoiding costly equipment repairs or replacement losses caused by production shutdowns or slowdowns, not to mention unnecessary workers' compensation claims. In fact, it costs companies five to 10 times more

maintenance programs to help corporate leaders understand the importance of providing maintenance in a proactive—rather than reactive—manner. This includes being able to quantify the financial and productivity-related improvements and how they benefit the company's bottom line.

As important as upper-level buy-in is, it isn't always enough. Many companies with a commitment to maintenance still struggle because of personnel issues. In fact, one of the most problematic challenges facing manufacturers is that there just aren't enough experienced maintenance managers and technicians to go around. In addition, more than 90 percent of American maintenance workers today have not been formally trained.

The sad reality is that most manufacturers struggle to properly maintain the equipment on which they rely every day. As a result, they frequently suffer from safety, reliability, and productivity shortcomings.

to act reactively to breakdowns than to implement a proactive maintenance program. Rather than cutting back on maintenance, companies should be incorporating it into their long- and short-term business plans.

Of course, the problem doesn't lie solely with company leaders. Maintenance managers often need to do a better job of communicating the importance of

The problem has been in the making for a long time, and it can't be turned around in a week or a month. A generation ago, companies had formal apprenticeship programs in place, through which maintenance managers and experienced maintenance staff taught their craft to the next generation of maintenance professionals. These apprenticeship programs were grueling

and often lasted as long as five years. However, at the end of the program, participants had the expertise and experience they needed to manage their companies' maintenance needs.

Unfortunately, these apprenticeship programs are largely a thing of the past. In recent years, companies have cut back on training, and maintenance

Companies that treat maintenance as a priority can save millions by avoiding expensive equipment repair, productivity lapses, and safety-related losses.

has suffered greatly. Now that the last generation's trained professionals are approaching retirement age, there are too few trained and experienced people available to take their place.

Some companies are already working to correct this deficiency, partnering with local technical colleges and community colleges to develop formal curricula that can be implemented in their long-term maintenance programs. This is a good first step. However, because of the complexity of the equipment and software systems that are in use at most manufacturing companies today, many won't reap the benefits of these training programs for a few years.

A Time for Action

Obviously, companies can't wait five or 10 years for their new training programs to get up and running. Companies

need answers to their manufacturing challenges today—not at some undeterminable date in the future. So, what can they do today?

The first step is to conduct a maintenance audit. The audit permits companies to evaluate the effectiveness of their efforts against a world-class maintenance standard. The audit starts with the

maintenance organization and then a visual evaluation of how the critical equipment is running, monitoring that equipment constantly throughout a workday and recording how effectively it is operating. The evaluation should also look at the speed at which the equipment is operating and whether it is working at full speed. Finally, it should evaluate the output and determine how much is good and how much is scrap. It's often necessary to monitor the equipment only for a few hours to get a good sense of how well it is working and where potential issues can be found, both in terms of short- and long-term operations. The audit can be conducted either by in-house maintenance managers or experienced consultants who are experts on the maintenance process.

Once the evaluation is completed, a short-term plan needs to be developed

for fixing problems identified during the audit phase. The plan should be created with the goal of getting critical equipment fully operational as quickly as possible. Half-solutions and Band-Aid approaches are not solutions at all because they typically lead to new problems further down the road, while hindering productivity in the short term.

While these initial steps represent progress, they are still *reactive*. The goal of every manufacturer should be to have a *proactive* maintenance program in place. This doesn't happen overnight; many companies find that they need to implement three- to five-year plans to move from reactive to proactive maintenance. Plans are created by establishing production goals for equipment and then determining maintenance best practices that will lead to that equipment being able to achieve those goals. Every company, every facility, and every piece of equipment is different, and the plans for meeting those goals must be built around the unique characteristics and challenges presented by the company and its equipment. Experienced maintenance managers who are familiar with the equipment that's being used and its capabilities should have no trouble creating a workable and effective maintenance strategy.

The question is: Where do these experienced managers come from if experienced and accomplished maintenance professionals are in short supply? Companies with inadequate maintenance resources can follow one of two routes for acquiring the experience they need to create and build a proactive maintenance program.

The first is the human resources route—recruiting talent. This can be a good way to obtain proven, talented maintenance

managers quickly. However, there aren't nearly enough experienced managers to fill all of the open positions in the marketplace, so companies should expect to pay a premium for the best managers. One advantage of this approach is that it provides a long-term solution, since the manager is likely to stay on with the company and implement the program after it is developed and once it is up and running.

The second route is to bring in a maintenance consultant on a short-term basis. The consultant can create a maintenance plan and train the company's maintenance staff to implement that

plan. The advantage of this approach is that companies can typically gain access to much more experienced maintenance professionals at a more affordable cost. The long-term success of this approach rests on the ability of maintenance staff to implement the program after the consultant has left.

Companies that treat maintenance as a priority can save millions by avoiding expensive equipment repair, productivity lapses, and safety-related losses. It's not difficult to make maintenance an important part of day-to-day operations, but it does often require

company leaders to change the way they think. Those companies that do make a commitment to maintenance don't just save money—they also create a better work environment, produce a better product, and gain a competitive edge over their competitors that don't understand the importance of maintenance excellence. ■



John Kravontka, CMRP, CMRT, is president of *TPM Unlimited, LLC*. He can be reached at jkrafontka@tpmunlimited.com.

Simplification Delivered!™

Don't Let Documentation Run You. You Run the Documentation! Get Certification Faster and Easier.

Simplify your Documentation for Ease of Use. Reduce your Documentation Preparation Time and Document Management /Maintenance Costs.

Since 1992, QSE has prepared 650 Certifications for 350 AICC members with a 100% success rate. Our consulting, training and auditing is customized for the Packaging Industry. We'll help you transition your QMS & EMS to newer versions of ISO 9001 and 14001 including gap assessments. We'll assist you to be on top of compliance to the Food Safety Modernization Act with Packaging Food Safety Certifications: AIB, BRC, SQF and FSSC 22000. With extensive experience in Standards Consulting, QSE can help your company achieve its quality and profitability goals. Call QSE to discuss your Document Simplification.



QUALITY SYSTEMS ENHANCEMENT, INC.
1790 Woodstock Rd. • Roswell, GA 30075
770-518-9967
www.enhancequality.com info@enhancequality.com

