

MANAGEMENT SIDE OF ENGINEERING

Edited by Jeanine Katzel, Senior Editor

Tapping the True Potential of TPM: Are You Maximizing the Value of Your Plant's Program?

GLENN LEBLANC, U.S. MRO Market Manager, Loctite Corp., Rocky Hill, CT

Many industrial plants are sold on total productive maintenance (TPM) programs. And for good reason. Companies with active TPM programs have seen labor productivity rise as much as 50% and maintenance costs drop dramatically.

TPM uses cross-functional team concepts to maintain equipment in a predictive manner, using preventive maintenance to prevent costly downtime. However, despite the number and variety of TPM programs available (reliability centered maintenance, results oriented maintenance, value engineered maintenance, etc.), maintenance organizations are a long way from realizing the true potential of TPM.

In fact, TPM is a relatively new concept, and most maintenance professionals are still learning to be good consumers of such programs. They need to learn that quick isn't always better. TPM requires that users understand the potential of such a program and that they shape the program for maximum benefit at their plants.

Are you maximizing the value of TPM at your plant? The following questions can help you find out.

Can I predict and measure cost savings from TPM?

Many plants cannot predict and measure the cost savings from their TPM efforts. Top management is asked to invest hundreds of thousands of dollars to implement TPM practices, but plant engineers are not given the tools they need to measure results or give management the regular reports they require on the bottom line benefits of the investment. Plant personnel end up fearful that management may kill or curb TPM initiatives.

Plant engineers should seek a program that helps them predict the benefits of taking an assertive approach to maintenance *before investments are made*, as well as report time and cost savings after the fact. Such value-added reporting gives operating executives confidence in the maintenance function, and often wins more dollars for maintenance at budget time.

Are my cross-functional teams integrated to enhance the value of TPM?

Engineering, production, purchasing, safety: these and other functions

Many plants cannot predict and measure the cost savings from their TPM efforts

all contribute to increased productivity and a reduction in maintenance costs — if the efforts are integrated.

For example, teams that work together can decide that stocking four penetrating oils is redundant. Consolidating inventory saves stocking costs, time spent on material safety data sheets, time spent on training.

Engineering can play a key role in maximizing the value of TPM. For instance, fastener loosening is a frequent cause of mechanical equipment failures. Specifying a liquid adhesive to prevent loosening can help cut future maintenance time. It is one type of cost avoidance, but it doesn't happen without an integrated approach.

Integration efforts should include your maintenance product suppliers. They should work with you to help realize TPM goals. Some vendors will survey the plant and identify cost reduction areas and even train plant personnel to use products more efficiently. Taking advantage of these ser-

vices can help make an existing TPM program work better. As TPM programs become more pervasive, industry has a right to expect this kind of value-added service from its vendors. **Am I effectively identifying the root causes of equipment problems?**

A maintenance organization cannot evolve from a *fix-it* mode to a *prevent-it* mode unless the root causes of equipment problems have been determined. Many root cause failure analyses stop short of identifying what *really* caused the problem. For example, misaligned shafts are a frequent source of downtime. A maintenance worker corrects the problem by pulling out the old pillow block, realigning the shaft, and reassembling the machine. The

problem is solved. But is it? The root cause may be something else, such as the loosening of the fastener that holds the pillow block.

The moral of the story: the root cause of an equipment failure is not always obvious. Failing to identify it stifles productivity. Management must empower every member of the team to make root cause analyses.

The leaner a plant becomes, the more pressure is put on the maintenance function to increase uptime, optimize plant efficiency, and maximize production. TPM programs are a key ingredient in answering this challenge. But if we are to realize the true potential of TPM, we need to become better users of these concepts.

Glenn LeBlanc is the U.S. maintenance, repair, and operations market manager for Loctite Corp. and has previously held positions within application engineering and product management. A graduate of Central Connecticut State University, he holds a B.S. degree in industrial technology.