

Viewpoint: Give Your Equipment A Jolt Of Productivity

Written by John Kravontka, President, Fuss & O'Neill TPM Services
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John Kravontka, President, Fuss & O'Neill TPM Services Often, unknowingly, companies may be producing at only half of their potential because of ineffective equipment performance.

The problem starts slowly. Companies may begin working around failed equipment and quality problems, believing it is the only way they can maintain production levels. Although they may start to fall behind in their output goals, some rationalize that shutting down for maintenance will make matters worse. If, however, failed equipment, minor stoppages and quality issues are the cause of reduced output, then maintenance— even with some downtime—is what's really required.

Improving equipment performance calls for Total Productive Maintenance (TPM) as part of a Lean Manufacturing strategy. Properly implemented, TPM can dramatically increase equipment productivity immediately, while, at the same time, it is reducing maintenance costs.

When TPM first began, it focused on transferring tasks from maintenance workers to machine operators. The thought was that giving operators minor maintenance tasks (i.e. filter changes, lubrication, etc.) would free up maintenance workers to do other things. This required significant training so operators could safely perform the tasks; that, in turn, led to increased cost and time for their companies, but greater responsibility for the operators. At the same time, maintenance workers' productivity decreased, from skills shortages, cutbacks, etc.

The original TPM concept didn't work well because it focused on tasks instead of on equipment productivity. In a typical maintenance department, 95 out of every 100 jobs are to

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repair equipment after it breaks down. In this reactive mode, maintenance personnel get pulled from one job to another, reducing their productivity even more. In a further effort to reduce costs, inventories of spare parts would be cut back, again decreasing maintenance and equipment productivity. Over time, without seeing major results, concepts like TPM tended to be phased out or dropped altogether.

During the past five years, though, the TPM philosophy has significantly evolved and companies using the new model find they are achieving tremendous results through improved equipment productivity. These companies work with TPM experts to focus on the Overall Equipment Effectiveness (OEE) of a critical piece of equipment. Together, they carefully analyze data to detect trends in production stoppages. They clean and inspect the equipment, targeting areas identified by the data. They modify the equipment to control contamination and make it more accessible for maintenance. They develop lubrication standards, cleaning standards, daily operator PM standards, etc. By taking these basic steps, OEE can jump immediately from the typical average of 50% to 60-80%—sometimes in the first week.

Today's approach to TPM encourages valuable input from operators—the people closest to the machinery. As part of such a team, operators develop and modify the daily PM plan, giving them ownership of the solution and moving equipment performance to a higher level.

TPM data, however, comes from many sources other than operators: maintenance failure history, OEE observations, (observing equipment in operation, noting why it stops), safety data, quality data, 5'S evaluations, predictive tools, etc. So, even in just a few hours, a TPM team can learn a great amount about equipment condition. Their evaluations force these teams to quickly focus on equipment details (pressure gauges, grease fittings, air filters etc.) to rate performance and find opportunities for improvement.

Going forward, manufacturers would be well advised to view TPM as a powerful ongoing business practice—one so powerful that it can reduce overall maintenance costs by 10-15% while at the same time improving equipment productivity. **MT**

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