

Focus on Results and Change the Culture Along the Way

Written by Robert M. Williamson, Strategic Work Systems, Inc.
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... Plus reduce equipment downtime by over 50 percent

in less than one month!



Robert M. Williamson, Strategic Work Systems, Inc. Businesses often try to improve performance by "implementing" improvement programs. Unless these programs are focused on specific measurable and observable results, they are short lived. Why? Human nature clashing with the world of business. Getting people to quickly embrace change while achieving sustainable business results can be challenging.

Here is a real down-to-earth success story that shows how to focus on results and change the culture along the way. The subject plant is a very large manufacturing facility that operates 7 days, 24 hours. It is part of a multi-national corporation producing a common product worldwide. With many of the traditional cost-cutting, downsizing, and ISO 9000 programs well behind them, managers noticed little improvement in the bottom line. In fact, equipment performance and reliability was declining at a steady pace.

They asked repeatedly, "How can we be assured that this Total Productive Maintenance/Manufacturing (TPM/M) approach will address the issues and give us a significant return on our investment?"

The approach they took was focused, rather than a widespread implementation. First, they sponsored a day-long session to teach the fundamentals of TPM/M to operations, maintenance, technical, and plant management, including about 50 salaried and hourly leaders. At the end of this session, a smaller group brainstormed possible applications and approaches.

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Within the next few weeks, they invited the TPM/M consultant back for a plant tour and meetings with potential TPM/M starting points. They looked for signs of equipment problems. They discussed equipment history and performance data. They looked at the preventive and predictive maintenance methods. The shops and spare parts conditions were reviewed. Lastly, they discussed plant process flow and the constraints or "bottlenecks." It was unanimous.

There were two major constraints and the most troublesome was about to get worse after January 2000 because of market demands. In fact, there were four of these machine cells, each one identical to the others. This was to be the TPM/M starting point.

After some preparation, the company assembled a Pit Crew to learn and apply the elements of TPM/M to one of the four constraint machine cells. The Pit Crew included a mechanic, an electrician, a lead operator, the maintenance coordinator/planner, the area supervisor, the reliability leader for the department, the department process quality technician, and the area manufacturing manager.

Three days of TPM/M Pit Stop training included a blend of classroom theory, case studies, demonstrations, and hands-on application. The group had full access to the equipment each afternoon during the training. During the hands-on portions of the training, real-time root cause analysis was learned and performed on all of the chronic equipment problems. With the root causes of poor performance known, it was a matter of using the new TPM/M knowledge to eliminate the causes and then establish countermeasures to ensure they would not return. The group then applied the proven practices and improvements to the remaining three machine cells.

After one full month of operation, the bottleneck no longer existed. The results to date: 89 percent reduction in downtime-causing contamination, over 50 percent reduction in unplanned machine downtime, and less operator intervention to free jams. This new machine performance and reliability led to increased production throughput of nearly 250 percent per shift of operation.

Additionally, work requests now have correct machine and part nomenclature and work orders have meaningful information on the causes of problems. Operators have visual procedures and guides to assist in performing their tasks. The Pit Crew continues to meet weekly to address other machine issues and to complete the remaining

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improvements.

A return on the investment in TPM/M Pit Stop training was conservatively estimated at 20 to 1 in less than two months considering improved production throughput and reduced maintenance calls.

Not only did the company improve 1 of 4 machine cells in its plant within a matter of a few weeks, but it set the stage for improvements to the nearly 150 similar machine cells in the company, all with the same problems. **MT**

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