

Focus on Results and Change the Culture Along the Way (Part 2)

Can you reduce equipment downtime by more than 50 percent in less than one month?

All too often, businesses try to improve performance by “implementing” improvement programs. Unless these programs are focused on specific measurable and observable results, they are short lived. Why is that? Human nature often clashes 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 seven days, 24 hours. It is part of a multi-national corporation producing a common product worldwide. With many of the traditional cost-cutting, down-sizing, and ISO 9000 programs well behind them, they noticed little improvement in their bottom line. In fact, their equipment performance and reliability was declining at a steady pace. Something had to be done, but the cost of doing “something” was a real issue. They asked repeatedly, “How can we be assured that this Total Productive Maintenance approach will address the issues and give us a significant return on our investment?” That’s the right question. They had to SEE the methods and results without taking a massive leap of faith.

The approach they took was focused, rather than a wide-spread implementation. First, they sponsored a day-long session to teach the fundamentals of TPM to operations, maintenance, technical and plant management, including about 50 salary and hourly leaders. At the end of this session, a smaller group brainstormed possible applications and approaches—keeping in mind something had to be done to improve the performance and reliability of their equipment.

Within the next few weeks, they invited the TPM consultant back for a plant tour and meetings with potential TPM 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 starting point. The discussion also pointed to the next constraint to address when the first one was cured.

After some preparation, the company assembled a “Pit Crew” to learn and apply the elements of TPM 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. If the reliability and performance of this constraint was to improve, this was the group that had the responsibility and the authority to do it.

Three days of “TPM 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 TPM learnings 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 improvements. A return on the investment in TPM Pit Stop training was conservatively estimated at 20 to one in less than two months considering improved production throughput and reduced maintenance calls!

Key learnings from this example:

- Focus on results and change the culture along the way
- Build on the sub-optimized systems and methods already in place
- Involve those who have not only the responsibility but the also the authority to make the necessary changes
- Formally train the group using sound adult-learning principles: Adults learn by doing and they learn what they can apply to make their work easier
- Do things that make the equipment easier to operate, easier to maintain, and easier to inspect
- And most importantly, focus on the constraints in the process - the high maintenance cost, high maintenance downtime, problem-prone equipment – equipment that IF it improved would get the attention of many people at all levels in the organization.

Oh, one last point – not only did they improve one of four machine cells in their plant within a matter of a few weeks, but there are nearly 150 similar machine cells in the company, all with the same design and chronic problems. If the company can standardize the minor equipment improvements alone, just imagine that return on investment.

© 2000
Robert M. Williamson
Strategic Work Systems, Inc.
Columbus, NC 28722
RobertMW2@cs.com
www.swspitcrew.com