MAINTECH 2005

Maintenance Technologies & Improvement Techniques

Rotorua, New Zealand 4-5 April 2005

Melbourne, Australia 7-8 April 2005

Utilizing Key Tools & Technologies to Best Effect

Dennis Suarez
Production Manager
46710 244th Ave SE
Enumclaw, WA  98022
USA
Phone: (360) 825-2838
e-mail: Kozmos4all@aol.com
UTILIZING KEY TOOLS & TECHNOLOGIES TO BEST EFFECT

The only reason that an organization assumes maintenance costs is to move itself to greater profitability. The goal of maintenance management is to utilize approaches and technology to improve manufacturing performance metrics.

When done properly, overall maintenance costs per unit of measure go down. It must be understood that a maintenance cost curve exists. The initial period sees an upward sloping cost curve followed by a flat table during a stabilization phase. After stabilization, the cost curve begins a steady downward slope eventually settling at a lower equilibrium. This is the classic profile of a well-managed maintenance program.

A means to achieve this cost profile rests with the mill's ability to evolve from breakdown maintenance to time-based, condition and predictive programs. Monitoring heat, vibration, sawing feed speeds & deflection, product size deviation, recovery baselines, product quality measures and a number of other subtle measures gives vital indications as to the well being of your plant's vital systems and processes.

Depending upon the quality, productivity and recovery demands of your particular situation, you can tailor programs, which will give you the most benefits for your financial resources. Not all maintenance technology suits the needs of every mill.

**Hit the basics with a vengeance: Never let up**

There is **nothing** more important than doing the basics well. To have a very basic but solid maintenance management system in place is far more valuable that to have a very expensive program that is hit and miss on the execution side. Reliability and repeatability are the primary objectives of a maintenance program.

Visually inspecting, listening, tightening, cleaning, lubricating, aligning, and adjusting are some of the most powerful functions undertaken to ensure the well being of a mill. With these functions, the workforce can identify the vast majority of the issues. The information gathered will also give insight into normal wear and potential failures. Only after mastering these areas would I recommend moving into more sophisticated means of detection.

**Identify the high risk, high speed failure opportunities**

With equipment that have high speed failure curves and high risk consequences, I would recommend monitoring technology linked to overrides. A good example would be a high speed curve gang. Bearing failures could be catastrophic. One must weigh risk and response time. The Reliability Centered Maintenance (RCM) methodology provides criteria for making these decisions.

Installed monitoring systems tend to be expensive and not always necessary on all equipment. I favor the use of hand held devices where the risk is not present. Ultrasonic
listening devices, heat guns, vibration sensor probes and shock pulse analyzers are all available and effective. The challenge is getting your maintenance people to use the gear and trust the information.

**Including Production in the maintenance/reliability process**

The operator has always been one of the most valuable diagnostic tools. The operator is always with the equipment and is aware of the slightest changes that take place through the day. The operator has a vested interest in not having to fight with the equipment every day. Using this valuable resource will get you to the root of the issue more quickly that having to start from the beginning with no information.

**Capitalize on the experience and skill of your vendors**

I have aggressively pursued this route with all of my primary vendors. Each of them has a vested interest in providing your mill with support. They are not only there to sell equipment but to provide solutions to manufacturing problems. I have effectively partnered with major equipment manufacturers, oil suppliers, parts suppliers, saw manufacturers, electronics firms and construction contractors to help me solve my manufacturing issues. Most are more than willing to help you get to resolution. It helps when you are speaking with facts & data.

The internet has made it possible for mills to communicate with vendors oceans and continents away. Digital images, and now the ability to link a diagnostic computer to your equipment half a world away gives you an added edge.

**Understand the cost of a failing process**

Many think that the cost of a failed process is the time to get it back up and the cost of parts and labor. This is only part of the cost. Many times equipment limps along with full knowledge of operators, maintenance and senior management. This limping equipment is providing losses in recovery, poor quality and sub-optimized production. It is also a safety incident waiting to happen.

Once that piece of gear fails, then a upset condition has occurred. Employees will rush around and try to get it back on line. This puts them between 8 and 25 times more likely of being injured than during normal operations. As you can see, there are many hidden costs to a failing process.

In summary, I have found that few technologies return as much value to the organization as executing the basics very, very well. There is no substitute for a good set of eyes in the manufacturing environment.