

Ensuring Energy Efficiency:

A Look at Energy Conservation in Finishing Shops

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Many say the energy crisis is over. California hasn't experienced a blackout since May, and Commonwealth Edison has announced it will cut prices across the country. The price of natural gas should have consumers smiling this winter.

However, the hard truth is no one knows how long these price decreases will last -- or how high the cost of energy could soar in the next few months. What companies *should* know is that it takes more than cheap prices to operate energy-efficiently. By examining and implementing changes to processes, equipment and procedures, top managers can continue to save money even when energy prices begin to climb again.

Getting Steamed

Summit Corporation, the country's largest privately owned plating job shop, located in Thomaston, CT, uses steam to heat its process tanks. The company performs a variety of plating processes, including continuous strip plating, continuous stampings plating and vibratory plating. With 42 lines churning out millions and millions of plated units a year, utility bills at the company are more than \$1.2 million a year. Energy conservation is obviously a big concern.

In 1996, top management at the company's 143,000 square foot facility conducted a survey of the

steam system and its 600 mechanical traps. Traps are designed to open in the presence of condensate and close in the presence of steam using internal floats, buckets, bellows or discs. Properly operating traps cycle half a dozen times per minute -- over 3 million times a year, 24 hours a day. Consequently, they wear, leak and eventually fail, leading to thousands of dollars of steam loss per year. According to Mark Cameron, maintenance supervisor at Summit, 30 percent of the company's traps were leaking or stuck open, costing the business a large amount of money.

"We experienced a lot of loss with the failed traps from downtime to high labor," said Brint Ostrander, director of facilities at Summit. "They had a domino effect on our system."

To find a solution to the problem, Summit turned to Enercon Systems, Inc. and their fixed orifice steam traps. Unlike mechanical traps, fixed orifice devices are not cyclical, and remove condensation continuously. There also are no moving parts that can fail or break. More than 600 companies around the country -- including 125 platers -- have the system.

"The lifespan of a steam trap is about four years so you need to replace about 25 percent of your steam traps each year," said Dave Walker, president of Enercon Systems. "Repairing steam traps will

save you money, but you have to continuously pay this money year after year. Our system lasts a lifetime."

After analyzing Summit's system, Enercon proposed replacing all of the traps with their one-piece units for \$122,000 installed. The proposal was easily sold to the company's management.

"We were able to change out one tank at a time and make the changes while the system was running," said Cameron. "Installation for all of the new traps took two to three weeks."

Since the fixed orifice installation, Summit's savings have been exceptional; all in all, the company estimates it has saved \$640,000 over a five-year period.

"The Enercon system cut our gas bill 18 percent (\$108,000 annually). We were also able to drop our boiler steam pressure by 30 percent. Trap maintenance has been non-existent, which means that we save \$20,000 a year in traps that we would normally have to maintain and replace," said Ostrander.

By examining their system and making appropriate changes, Summit will continue to save money on energy in years to come.

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