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$128,000 Savings Claim Isn't Blowing Steam

Fuel savings go right to the bottom line. It's as simple as that. If you net 5 percent annually, cutting fuel costs by $100,000 has the same profit impact as $2 million in new sales.

Summit Corp., the country's largest privately owned job shop electroplater, instituted an ambitious four-stage energy plan that not only cut fuel costs substantially but allowed it to upgrade it's plant and equipment. The steam system was a key target, particularly its hundreds of mechanical steam traps. Half of the fuel industrial nations consume is used to generate steam, and plants in the petroleum, chemical, pharmaceutical, power, food, pulp, paper, steel, surface finishing, textile and other industries can have hundreds and sometimes thousands of traps.

Steam traps are designed to purge water from the system and keep the steam in. However, the wear and tear of opening and shutting up to 3 million times a year on 24-hour processes causes them to fail. If they're not promptly repaired or replaced, high-pressure traps can lose thousands of dollars, as countless studies and analyses have reported. In large plants, losses can be staggering.

Back in 1996, Summit's 143,000 square-foot Thomaston, Conn., plant had 500 mechanical traps.

"A reliable, cost-efficient steam system is vital to us, and our 30 percent trap failure rate was unacceptable," says Brinton Ostrander, facilities director. "We were losing steam and always changing traps. The cost of repairing them was overburdening."

Summit brought in Enercon Systems Co. Enercon has replaced mechanical traps with its permanent system in over 600 industrial and commercial facilities nationwide, including, complete conversion of 38 plants for a $30 billion petrochemical company. Documented fuel savings range from 15 percent to 30 percent.

Steam traps were part of a comprehensive four-stage program implemented by Ostrander and Mark Cameron, maintenance supervisor-electronic engineer.

"We're one of the surface finishing industry's most energy-conscious companies," says Ostrander. "The auto, aerospace, electronic, telecommunications and semiconductor market we service is highly competitive. Energy management helps keep us competitive. With utility costs exceeding $1.2 million, our job is to optimize overall energy usage."

Cameron points out that stages one and two had resulted in a new energy-efficient compressor that saved $30,000 annually. New lighting fixtures saved another $96,000.

"We were utilizing reliable vendors and large rebate incentives from utilities to modernize our plant," he says.

For example, the electric company funded $140,000 of the $172,000 compressor cost.

The steam system was stage three of Summit's program. Enercon, whose customers already included some 125 platers, proposed replacing all of Summit's 500 traps with it's one-piece units for $122,000 installed.

"The proposal was approved with little fanfare by top management," says Ostrander. "Reducing trap failure was paramount and, with Enercon's lifetime warranty, the risk was minimal. The Enercon system cut our gas bill 18 percent or $108,000 annually. We were able to drop boiler steam pressure from 50 psi to 35 psi, a 30 percent decrease. Trap maintenance has been nonexistent. That means we save $20,000 a year in traps we'd have normally maintained and replaced. When we install a new line, we use Enercon. Since the original installation, Summit has bought another 100 Enercon units for new lines."

From an energy conservation and environmental standpoint, the trap project cut Summit's annual natural gas needs an estimated 250,000 therms, or some 1.25 million therms in five years. In addition, boiler makeup water requirements were reduced substantially. Every year, thousands and thousands of gallons of fresh water don't have to be re-heated, chemically treated or sent to a wastewater treatment facility.

The final phase of Summit's energy plan was $173,000 in state-of-the-art drying equipment that improved drying capabilities, increased line speed and cut utility costs.

"The utility company picked up the entire tab," says Ostrander. "Only in America could you earn $500,000 in energy incentives for cutting fuel costs, improving processes and fitting an older facility with state-of-the-art equipment."

"Summit proved what forward-thinking companies can do with aggressive energy conservation programs," adds Dave Walker, Enercon president. "They chose our track record over well-known products that weren't doing the job. They got a permanent trap system that substantially reduced natural gas, water and chemical usage, let them cut boiler pressure while improving heat transfer and saved $640,000 over five years. With an 11.4 month payback, our system produced a profit the year it was installed."❖

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