

How Johnstown Wire Got Closer to the Action

Three new steam generators, properly situated, make coating a more efficient and dependable process.

Sometimes problems go with the territory. Specialized wire products manufacturer Johnstown Wire Technologies faced a tactical problem when investors purchased the former Bethlehem Steel wire mill in Johnstown, PA. The purchase included a geographical barrier that JWT determined it would solve almost immediately.

Occupying a gargantuan 650,000-ft² plant that dates to 1911, the company specializes in wire diameters ranging from 0.057 to 1.062 in. The plant houses three pickling lines, four continuous-coil annealing furnaces, 33 wire-drawing machines, and three plating lines.

The production routes vary, depending on the end product. Nearly all of the wire eventually reaches steam-heated dip tanks in which coatings are applied.

The problem: coating efficiency was compromised by an aging conventional steam boiler situated a mile and a half away. The line from the boiler house to plant was insulated but boiler inadequacies, and a significant line loss resulted in less than 60% heating efficiency.

One thing was all too obvious to JWT management following the acquisition: considering its role in heating dip tanks, steam had to be produced more efficiently, more dependably, and most importantly, closer to the action.

"If the old boiler went down, the entire mill would soon follow," says Jerry Regan, operations manager. "And, given its age and distance, we were suffering a big loss in performance."

The answer to Johnstown Wire's problem was the installation in the mill itself of three new 250-hp, gas-fired steam generators from Clayton Indus-



Johnstown Wire's Jerry Regan (L) and Wayne Kinnel (R) check on a newly located steam generator at the plant's new boiler house. The mill has a production capacity of more than 12,000 tons of finished product per month.

tries. (A fourth steam generator was added recently, for back-up.)

"A room that could have been designed for the purpose was vacant," Regan says. "Once the decision was made, we had a home for the new equipment."

The Clayton steam generators were the choice of JWT executives, according to Regan, largely because of their efficiency — which is enhanced by the manufacturer's economizer coils.

Other important considerations were generator design features that make explosion virtually impossible; an 80% turndown ratio; a small footprint; and the minimal operator attention required, even during blow-down.

"The generators are really remarkable in this regard," Regan says. "We can leave Friday, and no one has to look at them again till Monday. Over the weekend they run themselves, modulating when necessary, and performing blow-downs. And, they're not a high-maintenance item."

A local contracting company handled installation of the first three units, but the fourth was installed by Johnstown Wire personnel.

Regan says the Clayton steam generators are monitored by a PLC, which automatically summons a technician if a fault is detected. JWT also uses Coil Guard, a product of Clayton's Chemicals division, that is added to feed-water to prevent scale and corrosion.

"Clayton's service is one of the things we're happiest with," Regan says. "John Westendorf, who is manager of their Chemicals division, is tremendous at having water conditions monitored and analyzed. He's always helping out and solving any problems."

With the new steam generators closer to the rest of the plant now, things at the JWT plant are running more efficient and safer.

How can you measure the newfound efficiencies provided by the Clayton steam generators?

"Natural gas represents 93% of the cost of running a boiler," Regan explains. "In 1993 we paid about \$725,000 for natural gas. Today, with the price of gas virtually doubled, we're operating our steam generators at just about the same cost."