Russell Corporation's Coosa River Plant weaves out worry with Current Technology®

Russell Corp. Coosa River Plant

When a raucous clap of thunder signals an ominous storm is approaching, Sam Patterson remains calm.

That's because the head facility engineer at the Russell Corporation's Coosa River Plant knows the modern textile operation is shielded from the devastating effects of lightning-induced surges.

Less than 10 miles from Montgomery, Ala. and near the city of Wetumpka, the textile plant produces the internationally recognized brand of JERZEES® sportswear. Professional and collegiate teams such the Atlanta Braves and Auburn University Tigers sport the well-known label in addition to most of the NBA basketball teams and the Little League Baseball World Series players.

Named for the adjacent tributary of the Alabama River, the Coosa River Plant differs from other Russell sites because it's the only textile mill with spinning, knitting, dyeing and finishing operations all in one.

But the plant's natural enemy to a smooth workflow is Mother Nature; the mill is prone to severe storms and lies in what is known locally as Tornado Alley and also the lightning belt.

"The numerous dyeing and finishing machines are valued at about a half-million dollars each. Every one of them is state-of-the art and driven by a programmable-logic controller, so it's critical to have surge and lightning protection that also is state of the art," Patterson said.

Equipment longevity is a basic financial concern as well as downtime, which can cost about $9,000 for every hour the Russell plant is off-line. Current Technology® selenium-enhanced™ surge protection devices installed at service entrance and downstream help the mill meet its product quality and delivery commitments.

"Our investment in Current Technology surge protection has and will continue to pay for itself many times over, especially as often as lightning strikes."

–Sam Patterson
Head Engineer

"High-speed yarn spinning is temperature- and humidity-sensitive, so air conditioning throughout the process is very critical. Also, compressed air is vital. Our air compressors are interconnected and driven by programmable-logic controlers," Patterson said.

"All of it is protected by Current Technology" selenium-enhanced surge protection. If we have a power blink, the air pressure drops and the 32 Murata spinning frames, which cost about $1 million a piece, drop off line."

The magnitude of power necessary to run the operation is so great that the plant is susceptible to the catastrophic effects of lightning-induced surges. Those effects strike a facility's bottom line in terms of costly production downtime and material waste to equipment repair or replacement.

Russell Corp. receives 115,000-volt power via overhead transmission lines from Alabama Power. Russell's own distribution system steps the power down to 4,160 volts and transmits it overhead about a half-mile where it is further distributed underground. That line is strung parallel to the 115,000 volt line, and that provides a double invitation to lightning and lightning-induced surges.

"We have six incoming services and each has a Current Technology selenium-enhanced unit. One of those services goes directly to the boiler house for dyeing and finishing," Patterson said. "That kind of overhead exposure is naturally vulnerable to lightning strikes, which also threaten sensors that monitor environmental compliance.

"Proper grounding and the Current Technology's surge protection systems keep surges from damaging our water temperature, pH probes, flow meters and their circuits. Current Technology's patented and unique design is the most superior design available today," Patterson said. "The surge suppression system provides protection to the manufacturing stream and allows us to monitor the environment responsibly, and both of those factors are directly impacted by lightning."

Supplying quality power to other facets of the operation remains just as vital to the plant's overall success. Because 16 lightning bolts struck the boiler house in one year alone and caused nuisance tripping of the main breaker, it now has its own power line and Current Technology suppression product. The area is the most surge-sensitive among all of the processes at the plant, in part because it includes generating temperature-controlled, pressurized steam.

"Thankfully, each time we reset the main breaker and started right back up. The dyeing operation can survive only about 20 minutes without steam pressure, and obviously, the longer the boiler is down, the longer it takes to regain pressure," Patterson said. In addition to protecting modern equipment and environmental controls, Current Technology surge suppression provides piece of mind.

"When lightning strikes, it's nice to be able to get back to business in five minutes given the sophistication and sensitivity of our equipment, compliance sensors and the plant environment," he said.

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