

## 'Rebel' approach sets Big River apart: CEO

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OSCEOLA, Ark. — If you think American capitalism is dead, and steel is a rusty relic of the last century, you are overdue for a trip to Big River Steel.

Head west from Memphis, Tenn., across the Mississippi River, and into Arkansas. Then drive north for about an hour. Stop when you get to the steel-blue mill looming over the surrounding farm fields on a 1,300-acre site just outside of Osceola, a town of about 8,500 people.

The site, where soybeans were growing about two years ago, is now host to a brand new flat-rolled steel mill. “Go Big” is the wording on plastic sheets wrapped around coils being readied for shipment.

The thanks for pushing the \$1.3-billion project across the finishing line go in no small part to company chief executive officer David Stickler. Over the past 25 years, he has been involved in structuring and financing more than 20 greenfield and expansion projects for metals and mining companies around the world.

Stickler’s recent projects include Mississippi Silicon, a silicon metal plant in Burnsville, and Blue Oak Resources, an e-waste recycling company with which former Vice President Al Gore is involved down the road from Big River Steel.

“People ask me, ‘Dave, why do you keep doing these projects? They’re hard. They’re time-consuming.’ Well, they’re also fun,” Stickler said in a recent interview with AMM sister publication Metal Bulletin Magazine. “Any time you take a farm field and, within 20 to 24 months, turn it into a thriving business with highly motivated, well-compensated employees, that’s worth it right there.”

The mill is designed to make 1.65 million tons per year in its first phase. It should come close to doubling its capacity within about 30 months, to 3.2 million tons per year.

The plant was expected to produce more than 110,000 tons of hot-rolled coil (HRC), hot-rolled pickled-and-oiled material, and cold-rolled coil (CRC) in March.

That comes after it rolled 93,000 tons of HRC in February and 63,000 tons in January. Galvanized product will be added to the mix this month.

Big River Steel employs about 400 people, but that number will jump to 645 when output doubles, Stickler said. It is already leaner than most of its peers, and the mill will have one of the lowest figures for man-hours per ton of steel produced of any steelworks.

“We embrace the use of automation and technology. Years ago, the steel industry was 80 percent brawn and 20 percent brains; today, at Big River Steel, we’re 90 percent brains and 10 percent brawn,” Stickler said.

German plantmaker SMS Group GmbH supplied mechanical equipment as well as electrical and automation systems for Big River Steel. The steelworks was commissioned in December 2016 together with the SMS CSP plant. An RH-TOP facility is to follow this June, the technology company said in early March.

Big River Steel is also working with Noodle.ai—a San Francisco-based artificial intelligence company staffed by some of the people who engineered the Watson supercomputer for IBM—to build what Stickler calls “the world’s first smart mill.”

The big idea is that—just as self-driving cars are designed to learn more by spending more time on the road—Big River Steel’s operations will learn more as the mill melts and rolls more tons of steel.

The goal is to combine big data, software and the latest equipment to create a steel mill capable of identifying and correcting production problems with minimal manual intervention, Stickler said.

The company is also making efforts to shake off the rusty image of the steel industry by becoming the first mill to receive Leadership in Energy and Environmental Design (LEED) certification.

Buyers will pay more for steel from an LEED-certified mill, Stickler acknowledged. However, assuming that prices and quality are comparable, certain industries would rather buy material from an LEED mill than from a non-LEED one. “And I’ll take the tie-breaker,” he said.

Stickler declined to name all of the sectors that might be keen on having LEED-certified steel suppliers, but he confirmed that the automotive sector— one of the largest steel end-markets in the United States—is one of them.

#### Roots in steel

Big River’s focus on technology and the environment stems from Stickler’s roots. He was born in 1960 in Rocky River, Ohio, a suburb of Cleveland—a city that was then at the heart of the U.S. steel industry.

“I certainly knew of steel and was not particularly attracted to the industry. I was looking for something that was more technologically advanced and more forward-thinking on the environment,” Stickler recalled.

He left Ohio for Chicago to get his MBA from Northwestern University’s Kellogg School of Management. From there, he went to work on Wall Street, at the former Manufacturers Hanover Trust, now part of New York-based JP Morgan Chase & Co.

One of his first clients was Pittsburgh-based U.S. Steel, an integrated mill and, at the time, one of the five largest steelmakers in the world. He worked with A.L. Hillegass, a senior executive at U.S. Steel, who, after retiring from the company, decided he did not want to leave the industry.

“We began buying assets that had been literally shuttered, not even mothballed, by U.S. Steel—and restarting them,” Stickler said.

In the process, Stickler learned of Charlotte-N.C.-based Nucor Corp., a start-up at the time, but now the largest steelmaker in North America. His relationship with Nucor over the next five years would bring him some of his greatest opportunities—and some of his greatest challenges.

Through Nucor, Stickler came to know Keith Busse, Mark Millett and Dick Teets, who left to found Steel Dynamics Inc. (SDI), a mini-mill headquartered in Fort Wayne, Ind., in 1993.

Stickler's company was one of the original investors in SDI, along with Boston-based private equity firm Bain Capital; GE Capital, a subsidiary of Boston-based multinational General Electric; and Frankfurt, Germany-based KfW Bankengruppe.

SDI is now worth \$8.64 billion, and its executives are among American steel's legends.

Despite his success with SDI, Stickler had no luck doing business with Nucor. He recalled regularly stopping by the company's offices in the hope of getting then-chief executive officer John Correnti interested in low-cost financing.

Correnti would politely invite Stickler into an office he shared with Sam Siegel, Nucor's chief financial officer. "Then they'd open up their drawer, show me their bank account statement and laugh. 'Dave, we have more money than some of these lenders you are talking about. We don't need your money,'" Stickler said.

Things changed when Nucor's board voted to oust company founder Ken Iverson and Correnti in what Stickler referred to as a "palace coup." Correnti immediately found work as chairman and chief executive officer of the former Birmingham Steel, an Alabama rebar mill that was restructuring and was hungry for the type of capital Stickler could provide.

After Correnti turned around Birmingham Steel, Nucor bought it for \$615 million in cash in 2002. Correnti knew he would not have a place at the boardroom table once the deal closed.

"That's when we put our heads together and decided to build a flat-rolled mini-mill," Stickler said.

In addition to his greenfield work with SDI, Stickler had honed his skills outside the U.S. as a mill builder and financier in Southeast Asia, where he and his colleagues at Global Principal Partners—his Miami-based investment company—helped restructure and expand Thai mills Nakornthai Strip Mill (NSM) and G Steel, as well as Siam Cement.

Closer to home, Stickler and Correnti worked together to finance and build the former SeverCorr, which has annual flat-rolled steelmaking capacity of 3.4 million tons. The Columbus, Miss., plant, commissioned in 2007, became part of Russian steelmaker Severstal and was later sold to SDI in July 2014 for \$1.6 billion.

Just as SDI was signing its deal for the Columbus mill, Correnti and Stickler were pressing ahead for what would become Big River Steel.

However, before a spade of dirt had been moved, the project ran into a big obstacle in the form of Nucor. The larger steelmaker, which operates two mills within 30 miles of Osceola, challenged Big River Steel's air permit in June 2014 immediately after financing for the new mill closed, Stickler said.

Nucor's legal challenge was rejected by a federal judge in June 2016 after two years of courtroom wrangling. "In the USA, I guess anybody can sue anyone for anything. But we wore it as a badge of honor," Stickler said.

Correnti, however, did not live to see his last new mill commissioned. He died of a heart attack in August 2015 while on a business trip to Chicago.

Stickler decided that the best way to honor his friend and business partner's legacy would be to finish Big River Steel on time and on budget.

He also did it because he and Correnti's family had stakes in the project.

Big River Steel has four primary owners: Correnti's estate and Stickler's Global Principal Partners; San Francisco-based private equity firm TPG Capital; the Arkansas Teachers' Retirement System pension plan; and Kansas-based Koch Industries.

Koch is one of the biggest private companies in the U.S. It is led by billionaire brothers and conservative political activists Charles and David Koch.

Stickler dodged a question as to whether his deep-pocketed investors might be inclined to build another mill or mills. He also declined to say what products a new mill would make if it were built.

"What I would say right now," he conceded, "is that Big River Steel is focused on getting its operation fully commissioned and making the products our consumers appear to be eager to buy from us."

#### Innovative thinking

While Stickler won't say what Big River's long-term plan is, he will tell you what its short-term strategy is not.

"We have a swear word here: 'That's the way we've always done it,' " he said. "So when we ask, 'Why are you doing that?' The wrong answer is, 'That's the way we've always done it.' At the end of the day, we may end up doing it the same way. But we're going to spend the intellectual time and effort to challenge what people perceive as industry norms."

That goes for everything from making steel and sourcing scrap to deploying technology, Stickler said. "There is a lot of low-hanging fruit in industrial America for companies that have the mindset to harness data collection and the modern facilities able to collect that data," he said.

When Big River Steel hosted its grand opening on March 1, the theme was "Rebels Wanted—pushing the boundaries of what steel can do. Challenging the status quo. Disrupting the industry. Blurring the lines of steel and tech," the company said.

"To bring this reputation to life, Big River branded the event as Rebels Wanted to pose a question to its customers, investors, contractors, employees and guests," it explained.

Its innovative thinking also encompasses the mini-mill's scrap sourcing. Stickler said that Big River Steel is considering a toll-processing model of procuring scrap. "The toll-processing model is simple. You deliver X amount of scrap to Big River Steel, and we'll have Y amount of steel waiting for you. And we'll just simply charge you a processing fee," he said.

That contrasts with a traditional model in which scrap generators, such as automotive stamping plants, sell to scrap processors. Those processors typically aim to buy scrap as cheaply as possible from stampers, and to sell the same scrap to mills at the highest price they can get – a model that creates unnecessary uncertainty and volatility, Stickler said.

The real revolution, however, is using mini-mill technology to make products that have traditionally been the domain of integrated mills, Stickler said.

Big River Steel wants to make advanced high-strength steel for automakers looking to meet increasingly stringent fuel economy standards. The company also plans to make electrical steels, which are used in transformers, for example.

Big River Steel expects to be making both next-generation, high-strength steels and electrical steels within two years. For electrical steels, that includes all nine grades of motor lamination steel, semi-processed and fully processed non-grain-oriented steel as well as grain-oriented steels – including “Hi-B” grain-oriented steels, Stickler said.

Stickler is particularly bullish on the outlook for electrical steels, given the increased focus on energy efficiency in the U.S. and abroad.

“There is still a significant amount of (power) line loss. So for every kilowatt of energy generated at the power plant, significantly less is delivered to the wall socket,” he said. “Our steels will significantly improve transformer performance.”

Big River Steel has domestic competition when it comes to electrical steels, but the company thinks its cost structure is lower than that of competitors. Big River’s low costs and high quality should make it competitive within the U.S. and on the world export market, Stickler said.

That is in large part due to Big River combining the low-cost mini-mill model with high-end equipment such as its Ruhrstahl-Heraeus (RH) de-gasser. The de-gasser will allow Big River’s electric-arc furnace to take its nitrogen levels far below those typically associated with mini-mills, he said.

The company is targeting steels with nitrogen and carbon levels as low as 20 parts per million, the threshold necessary to make high-end automotive and electrical steels.

The company also plans to go big, literally, by making coils up to 78 inches wide and 1 inch thick. That wide range of products is why Big River refers to itself not only as a smart mill but also as a “Flex Mill” – a term the company has trademarked, Stickler noted.

While Big River is counting on the world to continue to electrify and to build lighter, safer cars and trucks, it is not counting on tariffs blocking imports from the U.S. market.

“Certainly, we are going to benefit from any tariffs that are put in place. But we would not have been able to finance this project if we were dependent on the Chinese cutting their steel production in half and tariffs being in place forever,” he said.

There are as much as 700 million tonnes per year of excess annual steelmaking capacity in the world, according to some estimates, and 400 million tonnes per year of this is located in China.

When asked about such statistics, Stickler noted that he has maintained a home in China for more than 10 years. “And I have worked with many of China’s leading steel producers. They are not going away,” he said.

Pizza benchmark quadruples

A \$1.3 billion steel mill has a big indirect effect on a community such as Osceola. But how does one measure that?

One way is to quantify a local surge in pizza demand. A petrol station near Big River Steel sold fewer than 2,000 slices of pizza in 2014, the year that construction on the mill began. Stickler knows this because he asked the owner of the local Mini Mart for a tally.

In 2016, the year the mill was completed, the outlet sold almost 9,000 slices of pizza. Its revenue more than tripled from 2014 to 2016, Stickler said.

“That’s one of the real motivators for me,” he said. “It is coming into these rural, economically challenged areas and creating the opportunity for hard-working, honest people to improve their economic well-being.”

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