EBAA Banks on Future Success

After building a new metalcasting facility with cash on hand, EBAA Iron Co. is now weathering the economic downturn and biding its time until conditions improve.

Shea Gibbs, Senior Editor

Earl Bradley didn't like to borrow money. He took out one loan in 1964 to build his waterworks-related metal-casting business and never looked back.

"A banker is like an uninvited board member who demands his dividend whether you make money or not," said Earl T. Bradley, who now owns and operates his father's casting business. "My dad didn't like debt."

After paying off the loan that made it all happen ($50,000 borrowed with stock in Tyler Pipe put up as collateral), Earl Bradley made it a point to run his business by spending money that had been made, not money that was in the making. Earl T. Bradley operates EBAA Iron Co., Eastland, Texas, on the same principle today.

So when the housing boom in the first half of the decade brought the ferrous sand caster a spike in sales of its joint restraint products, which hold underground water mains together, it decided to invest some money. EBAA built a $16 million nobake facility to accommodate the large end of its product line, leaving the existing lines open to focus on the smaller parts. EBAA also installed nine robotic grinding machines to completely automate the process of finishing the smaller parts.

Today, the large parts are still in high demand. But an overall downturn in the waterworks market has decreased shipments and sales, specifically of the smaller pieces.

"At the end of 2006 and the start of 2007, we thought we had built too small [a facility]," Bradley said. "Sales for the 20-in. and smaller rings have slowed; the 24-in. and larger glands are still booming. But 85% of our work is 12 in. and smaller."

EBAA Iron Co.
Eastland, Texas

Metals Cast:	Ductile iron.
Casting Size:	Ounces to 300 lbs.
Facility Size:	More than 300,000 sq. ft.
Employees:	350.
Value-Added:	Machining, painting and assembly.

So while the new nobake line is still producing almost as many parts as management foresaw, the rest of the facility has had to cut back, despite now being able to crank parts through the cleaning room faster than ever. Fortunately for EBAA, its clear balance sheet makes it capable of weathering the current economic storm.

Mega-Men

EBAA isn't a recession-proof business. With 99% of its castings going toward the company's own product line, it doesn't have the luxury of diversifying when its target market shrinks. That has made it all the more important for the company to stay out of debt.

The EBAA product line includes a variety of pipe restraint products ranging from 3 to 48 in. in diameter. The smaller devices (from 3 to 20 in.), which the company produces on its three automatic green sand molding machines, are installed in neighborhoods and responsible for water distribution to households. The larger rings (from 24 to 48 in.) are commonly found in outlying areas and are used for transmission of the water supply.

"Waterworks is not a get rich quick deal," Bradley said. "But people have to have water. Next to the air that you breathe, it's the most important thing."

The company sometimes contracts directly with cities to supply its joint restraint valves for all their water main applications, but primarily EBAA sells the product line through wholesale distribution centers, such as Fergeson Underground and HD Supply (Home Depot's wholesale arm). The mechanical joint restraint glands are on the market under the trade name MegaLug.

"My dad went on that 'mega' kick, and every time you turn around, it's mega this and mega that," Bradley said.

The company also produces the MegaFlange flexible adapter and uses a proprietary powder coating paint it calls Mega-Bond. A slew of small items that are used to fasten the retainer glands to the iron, PVC and steel pipe with which they are used are also made on the company's green sand lines.

"We make more than 100,000 widgets daily, which are used as the gripping devices to fasten the bodies to the pipe," he said. "We make the collar bolts and wedges on the [automatic molding machines], as well as a nut that is a steel forging."

The new nobake facility also is used to produce the most complex fully-assembled products EBAA sells, the Flex-Tend family of products, seven- to nine-

piece joints designed to flex instead of break during an earthquake.

Waterworks Ebbs and Flows

For quite some time, EBAA sold enough of its product line to make Bradley seem like a liar—waterworks indeed appeared to be a get-rich quick business. For 30 years through 2006, EBAA reported an average of 8% annual sales growth, with some years reaching 10%.

"It was a direct result of selling a patented product in a market we created," Bradley said.

Throughout the salad days from 1976-2006, the company made improvements with money in the coffers. And toward the end of the boom, EBAA began building the additions that made it the company it is today. In 2006, the year immediately before the nobake plant opened, EBAA shipped 12% more product than it did the previous year. But then the numbers came back down to earth.

"We rode the housing boom, which spiked in 2006," Bradley said. "That spike shouldn't have been there. We rode the peak."

The next year, 2007, the company went the other direction, dropping 10% of its sales and 16% of its shipped tonnage. Sales are projected to fall another 11% in 2008, with EBAA shipping 13% fewer tons.

EBAA's employment rolls also are 25% off of their peak, though the company has made no layoffs. The employee attrition has occurred naturally as individuals have left or retired, and EBAA has for the first time in Bradley's memory not been hiring workers.

"The entire waterworks market is down," he said. "Some of it's gone to China. We'd like to have that business now, but in the past we were at capacity."

Booming Improvements

Construction to increase EBAA's capacity began in October 2005. The project started with an empty lot and resulted in a 58,500-sq.-ft. nobake plant with two molding areas, a coreroom, a cell for scrap handling and melting (two coreless induction furnaces), and an area for cooling and shakeout. Retainer glands from 24 to 30 in. are produced on an automatic nobake line, and all rings larger than 30 in., along with the company's flexible expansion earthquake joints, are cast on a separate manual molding line.

"We looked at expanding the existing plant," said Dick Meade, EBAA's

EBAA Iron Co. makes a product line of pipe restraint products ranging from 3 to 48 in. in diameter. The small rings are produced on automatic green sand molding machines, and the larger ones are made in the new nobake facility.

For a podcast with Dick Meade, visit www.moderncasting.com.

EBAA produces only its largest retention rings, as well as the flexible earthquake joint, on this manual nobake line.

manager of plant engineering. "But we had reached the limits of the space, and everything we looked at meant shutting the old plant down to remodel, revamp and increase capacity. We couldn't afford the loss of production, and our stuff is so specialized, it would have been difficult to farm it out."

EBAA visited a large nobake facility seeking ideas for the planned expansion. After the visit, the facility's equipment came up for sale. EBAA purchased the line and went about the process of tailoring it to its layout and production requirements. According to Meade, the engineering team also implemented an innovative shakeout and handling system in which all the processes between pouring and grinding took place inside "a building within a building," confining the heat, noise and dust.

The cash investment also bought a large robotic handler that functions by mimicking the hand motions of an operator in an enclosed cab and also features a pneumatic knockoff for removing the gating and risers of large castings.

"This will be a more pleasant place to work," Meade said. "From the time we make the larger parts until they go out the door, they aren't touched by a human."

In an interview at the time of the expansion two years ago, Bradley spoke about his company's prospects with optimism. "Our company continues to grow," he said. "We are proud of our people and this new facility, and we are excited about what this expansion will mean for EBAA Iron."

According to Earl Bullock, who manages the nobake facility, what it meant in the short term was that EBAA's nobake line was no longer held back by having to share metal with the green sand molders, ramping up its capacity and allowing the metalcaster to produce more large parts in less time. Bullock said approximately 3 tons of metal per hour is required to meet customer demands for products made in the facility, and the new plant added just more than 3 tons/hour of melt capacity.

"Some of our castings are dimensionally critical, and the nobake sand is a great medium for that," Bullock said. But, "business has dropped off in the last six months; we've been kind of running along with the economy."

Foundry Philosophy

When asked to describe what he does at EBAA Iron, Bullock said, "I guess I'm just a foundryman." That's an understatement. Formerly a company vice president, he has been with EBAA for 40 years. And according to Meade, the improvements the company has made over the past several years have all been in an attempt to build a workforce with more Bullocks.

"If you had to sum up what we've done, sure we've been looking for increased productivity, but we've also been trying to attract and keep good help," Meade said. "We've been trying to identify places that are unpleasant, hard work. We try to apply some technology to erase some of the negatives to working in these areas."

In addition to the more ergonomically and environmentally friendly nobake facility, the company's grinding improvements have all been aimed at making a demanding metalcasting job less demanding. EBAA has almost eliminated all hand grinding on products 12 in. and smaller (85% of its product), is currently awaiting delivery of a larger automatic grinder to be used on 24 in. rings, and is looking into moving the automated grinding up the chain to even larger castings. While Meade could not pinpoint the exact amount the company has spent on grinding, he estimates

the cost of each automated grinder at $300,000.

Two employees formerly loading cores into EBAA's automatic green sand molding machines also have benefitted from this philosophy. With the help of automatic molding machine supplier Disa Industries, EBAA has developed an automated system that Meade said transformed the process of setting cores into the green sand molds from an eight-hour track meet into a walk in the park.

"Now the guys set cores at a leisurely pace in a series of carriers that circulate and are indexed up close to the core mask," Meade said. "Then a robot reaches out and grabs the cores and picks them up and sets them into the core mask at the same time."

The Current Reality

No one at EBAA Iron conceals the fact that its target market has suffered in the past year or so. To do so would be to fly in the face of obvious market conditions.

According to metalcasting forecasting firm Stratecasts Inc., Fort Myers, Fla., housing starts declined 26% between 2006 and 2008. Without new houses, there was no need for new distribution pipe and pipe fittings, i.e. the smaller end of EBAA's product line. Stratecasts has shown a steady decline in domestic ductile iron shipments across the board in the pipe and fitting market since 2006.

The pricey new nobake plant was designed with some elasticity, though. EBAA also operates a storage and shipping plant in Cordele, Ga., and a second metalcasting facility in Albany, Texas. The facility in Cordele formerly housed an older green sand molding line that had become a drain on resources.

"The amount they were pouring wasn't worth it," Bradley said. "The more you can put under one roof, the better. We took all their work, and the day we started the new [nobake] line, we ran a 10 hour shift. Future plans are to add additional production shifts. We have always designed a plant to go one eight hour shift, then 10 hours, then two eight hour shifts. Any business requiring capacity greater than two eight hour shifts makes us plan for a new plant or add equipment."

Danny Norris, EBAA's manager of metalcasting operations, believes his employer will have no problems sticking out the lean times, however long they might be.

"It's a proven model after all these years. We stick with it and it works," he said. "We can weather the bad times and the good. It's the kind of company you would buy stock in, if you could."

If the forecasts hold true, Norris will be proven correct, and the waterworks market will turn the corner in the next year or so. After several years of decline, Stratecasts expects a 3% increase in 2009 of ductile iron shipments in the valve and fittings market. Meanwhile, EBAA is looking to apply some of its unused capacity to jobbing work.

"Mr. Bradley always felt you have to put some money aside for a rainy day," Meade said. "For a long time, we didn't have a rainy day. But we knew it was coming, and we were prepared. At the current level of business, we can easily survive for two years. We may have to selectively shut down lines and relocate people, but we're going to hunker down and ride this thing out. It's going to get better again." ***MC***

For additional photos of EBAA Iron, visit www.moderncasting.com.

In addition to the new nobake plant and automatic grinding cells, EBAA installed this automated powder painting line to improve working conditions, increase productivity and produce a nicer finish.