New York State
Environmental Investment Program
Capital Project Summary
Armstrong Mold Corporation

Project Background
Armstrong Mold Corporation was founded in 1968. The company's primary business is casting aluminum parts via the sand mold process. In addition, Armstrong also casts aluminum parts via the plaster mold process, produces polyurethane foam parts with the reaction injection molding process (RIM), operates a graphite die casting facility for low-volume aluminum and zinc parts, and functions a tooling and machining division primarily serving their own foundries. The company's niche is low-volume runs (100s and 1,000s, as opposed to millions) and prototypes of cast aluminum and polyurethane parts for engines, transmission housings, large-scale computers and servers and airplanes for the military. Armstrong was operating mechanical and thermal reclaimers in tandem to reclaim and re-use sand from the molding process. Purchased in the late 1980s, the system was small (rated at .33 tons of sand per hour), old and—because sales had increased significantly in recent years—no longer meeting the company's production needs. To maintain production, Armstrong regularly bypassed the reclaim system (purchasing new sand, using it once and disposing of it), and/or halted the sand mold line altogether while awaiting new sand deliveries. When the reclaimer's 25 ton silo was full of sand that the reclaimer could not accommodate, Armstrong employees manually broke up the sand (with jackhammers or by hand) and placed it in a mixed waste container for transport to landfill.

Project Description
The company replaced the old sand reclamation system with a new Gudgeon Thermfire thermal reclaim system capable of processing 1.5 tons of sand per hour. The system included all associated transport devices, including bucket elevators, pneumatic tubes, belt conveyors and a storage silo. The system is designed to allow Armstrong to reuse all of its sand and purchase make-up sand only as needed. With installation of the new system, Armstrong intended to reclaim an additional 967 tons per year of used sand, saving $271,859 per year in avoided disposal costs, avoided new sand costs and avoided overtime labor costs The new system uses an indirect burn technology that results in a complete burn at lower temperatures resulting in energy savings, lower air emissions and sand that requires less chemical binder (phenolic urethane) than new sand.

Site work, deliveries, installation and system start up occurred on schedule. In tandem with the project, the company also invested in and installed a Vibro Shakeout unit which mechanically breaks down sand molds into a powder/granular form before processing it through the new system, which was operational in March, 2009.

Project Results
The effect of the economic downturn started impacting Armstrong's sales in early FY 2009. Sales to the largest customer dropped approximately 34% for the first 8 months of FY 2009. Castings for this customer were mostly made using sand molds; however, castings for new and/or existing customers were mostly made using plaster molds. The lower volume of sand molds produced impacted the amount of sand that the company needed to reclaim. By the close of the project, Armstrong was anticipating a further decline in sales prior to an increase. Despite this and having invested in a cost efficient system, the company is now well-positioned to operate in the long-term.

Contractor:	Onondaga Country Industrial Development Agency	**NYS EIP Investment:**	$100,000
		Contractor Match:	$480,894
County:	Onondaga	**Total:**	$580,894
ESD Region:	Central New York	**Completion Date:**	July, 2009
ESD Contact:	518/292-5340		