SFSA CASTEEL REPORTER

Steel Founders' Society of America

a monthly publication
serving SFSA steel casting industry Members

780 McArdle Drive Unit G, Crystal Lake IL 60014
815-455-8240 Fax: 815-455-8241
www.sfsa.org

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Casteel Commentary Highlights:

One member responded to last month's commentary with question and this month's write up is his observations and my thoughts on machining our own castings. I would encourage any reader to respond and engage in a discussion on anything in the newsletter.

CASTEXPO

SFSA has a booth at the AFS/NADCA CASTEXPO. Our booth is #1262. http://www.castexpo.com Please come and visit us when you are at the show. On May 17, Raymond Monroe will be giving a luncheon talk on China at the Copper division luncheon.

AmeriCast acquires A.G. Anderson Ltd.

A press release is attached to this newsletter.

Carbon & Low Alloy Research Review

The Carbon and Low Alloy Research Review will provide an opportunity for you to hear from the researchers the progress of their work. Most importantly it gives you an opportunity to provide input into the direction of the work enabling the greatest value to be achieved by the member foundries. Make a note of the dates and plan to attend. The meeting will be held July 16-17 at the Wyndham O'Hare Hotel in Rosemont, IL. Details have been sent to SFSA members via email.

Innovation

Traditional gating system design includes features that were needed when molds were made from green sand and castings were smaller. Today as a result of the clean steel research we have some different ideas as how castings should be gated. First of course is that the gating systems need to serve the pouring system to avoid any added damage to the liquid metal forming inclusions. A pouring event is a collision, a wreck were the steel stream smashes into the mold. In bottom pouring the velocity is high so we want to avoid waterfalls and fountains in gating. Typically in bottom pouring the sprue tile should be larger (1") than the nozzle and the metal should enter at the bottom ot the casting. The metal should fall the whole way to the lowest point in one fall. Next month we can consider gating for lip and teapot pouring.

Specifications

Many producers and users misunderstand the nature of specifications. Even specification writers often indulge themselves and include information not appropriate for the standard. Specifications are a way of purchasers and suppliers to agree on product requirements. Every part of a specification should identify the product requirements, establish the method for testing, or establish the acceptance criteria for each test. Anything included in the standard beyond this is for information and may be added as a non-mandatory appendix or note.

Specifications are not instruction manuals, technical papers, explanations, or opinion commentaries. Company and some national specifications fail this test and make compliance

more difficult. When the specification includes “advice” or “commentary” as preferences, is this text mandatory? Is the supplier responsible? Specifications let purchasers make stupid decisions but the decisions should be clear and the requirements understood.

Specifications also do not protect the purchaser or supplier from inadequate product. Often the specification is incomplete or too broad. This allows the supplier to make product that meets the requirements but is inadequate for the desired purpose. For example, every composition permitted will not meet the required mechanical properties. All compositions and heat treatments will not be weldable or give the corrosion protection needed. Suppliers (steel foundries) should not think that the specification is a recipe and that the cake will taste good just by following the recipe.

Schedules

SFSA did a short survey on how Steel Foundries schedule. Here is a summary of the results of that survey, 27 responses. Complete responses are only available to those who responded to the survey.

1. How do you schedule production in your plant?

Due Date	21
By weight/heat	4
Capacity	2
Mold production	14
Orders/cleaning	5
NDE	2

2. Who does the scheduling?

Production	17
Contract review	1
Scheduler	9
Sales	1

3. What constraint normally determines the schedule?

Due Date	8
Mold	14
Alloy/Heat	11
Area capacity	6
Space	4
Cleaning	1
Machining	3
Heat Treat	8
NDE	1

4. What, if any, program do you use for scheduling, is it a purchased or internally developed software?

ERP	3
Excel	10
Access	3
B&L	4
Internally	11
Visiprise	1
Syspro	2
Manual	6
SAP	1

Peachtree	1
Syncro	evaluating

5. What are its strengths and weaknesses, how flexible is it by machine or production area?

Strengths

ERP+Excel+Access	Flexible
B&L	schedule multiple furnaces
	Assemble heats
	Recognize capacity
	Flexible and allows communication to customer
	Flexible and machine specific
Internal	meet promised date (large projects)
	Flexible 8
Excel	Flexible and detailed
	Easy to use and train
	Reports and information
	Self configure
Access	best it
Visiprise	flexible and generic
Peachtree	cost

Weaknesses

ERP+Excel+Access	limited variables input
B&L	Job Shop requires manipulation
	Cleaning operations
	Partial completion
	overbooking
Internal	unsecured
	Hard to handle complex production routes
	No MRP
Excel	multiple cavities in mold
	Detail by area
	Status of part in cleaning
	PO or piece tracking
SAP	time consuming
Visiprise	time to understand and set up
Peachtree	scheduler must know constraints
Syspro	shop floor control Scheduling
	Utilization of resources
	Accurate dates for customers
	inflexible

6. How do you expedite?

Manually	21	(emails, calls, and lots of yelling)
No excess capacity	2	
Extra Charge	4	
Tag orders	6	
Overtime	5	

Market News

Shipments and bookings remain relatively stable slightly off the highest levels and not increasing. The Forecast indicated a slow start and with the uncertainty in financial markets, capital investment will be subdued. Continued high levels of commodity prices will continue to stimulate demand but the volatility and future uncertainty will moderate investment. This same trend is seen in iron and steel castings reported by Commerce in the US and in steel shipments reported by AISI.

Inventories have grown relative to shipments and orders for capital goods. This will also continue to moderate demand. On the other hand, large infrastructure projects are planned and being financed. The future market conditions should strengthen but it may be later in the year before demand improves significantly. Added information is available in the SteelGuru document on the Casteel Reporter web page.

Casteel Commentary

One member's response to last month:

I find your commentary interesting. I strongly agree there are no secret processes that exist. I have openly shared what we do here, and I can tell by the look on peoples face and their body language that they know I am lying to them because in their own minds they do no feel that it is possible. So sharing information is a good thing that we can all learn from. Transfusing information to regions of the world deemed low cost producers is not a good practice.

Your comments on machining have me a bit confused. The castings produced in our foundry are probably some of the most extensively machined casting produced in steel. These castings are produced for in house use and as contract castings machined by others. All of our processes and procedures in the foundry are in place so that when the casting goes to the machine shop it stays there.

Rough machining and up grading to meet a quality level is not improving the foundry process. You are still making the casting in the cleaning room. The goal should be to make the casting in the foundry. This makes for a predictable process, so you can hit your delivery dates, and not tie castings up in a loop of inspection and up grade to make an acceptable casting. We still produce clunkers but it is a 95% good VS 5% that are a problem.

This is just the humble opinion of an old foundry guy trying to make quality that meet customer requirements castings.

My thoughts:

I agree. This member's thoughts point out the opportunities and challenges of machining our own castings. While it reduces the unfair blame that steel foundries often receive when a customer and machine shop cast at the foundry, it highlights in undeniable ways the quality issues we can address. This member by already adopting the strategy advocated last month has gained the benefit in schedule and perceived quality; he has also suffered with the exposure of quality issues. Most who tour his facility are surprised that steel castings can meet the machined surface quality requirements that he meets as a normal part of production.

Machining our own castings will not eliminate inclusions or porosity, only our own excuses for the ones that are due to poor workmanship and outdated technology. Each solution to our current problems contains our next set of problems.

Machining our castings give us the advantage of meeting a fixed schedule. It allows us to deliver castings that do not surprise our customers in their machining and processing. And it will expose many opportunities for process improvement.

Raymond

STEEL FOUNDERS' SOCIETY OF AMERICA

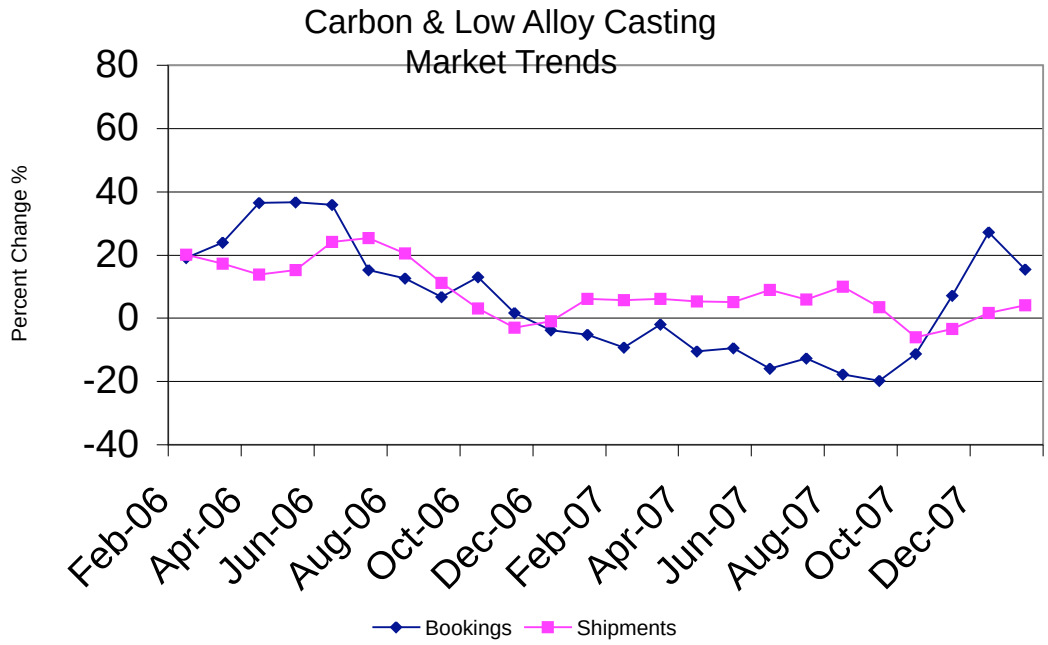
MEETINGS CALENDAR

2008

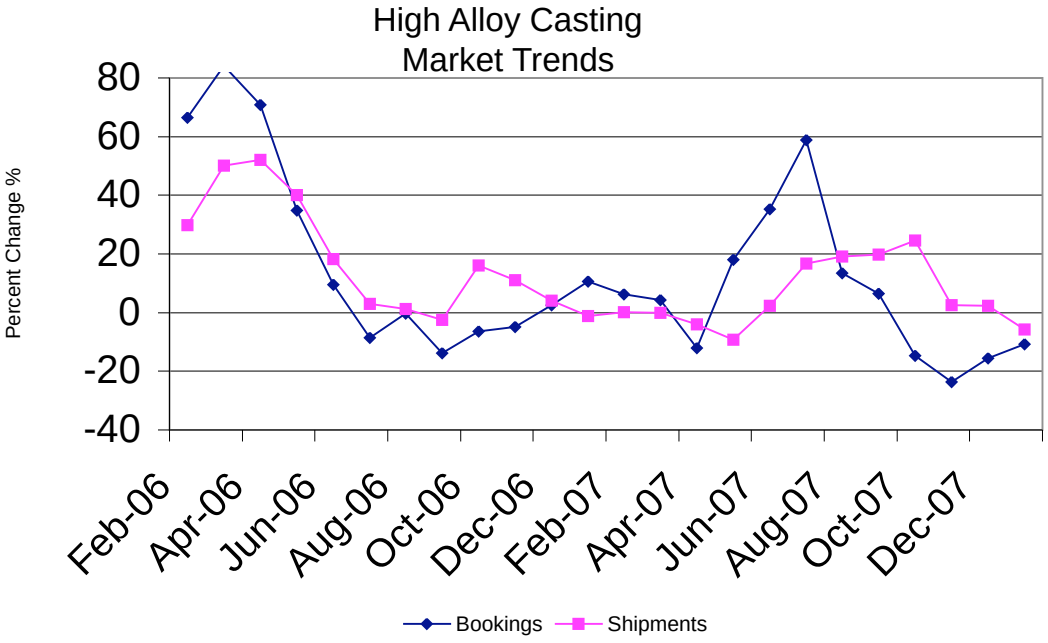
July		
16/17	C&LA Research Review	Rosemont, IL
September		
9-6	SFSA Annual Meeting	Charleston, SC
December		
10-13	National T&O Conference	Chicago, IL

STEEL FOUNDERS' SOCIETY OF AMERICA
BUSINESS REPORT

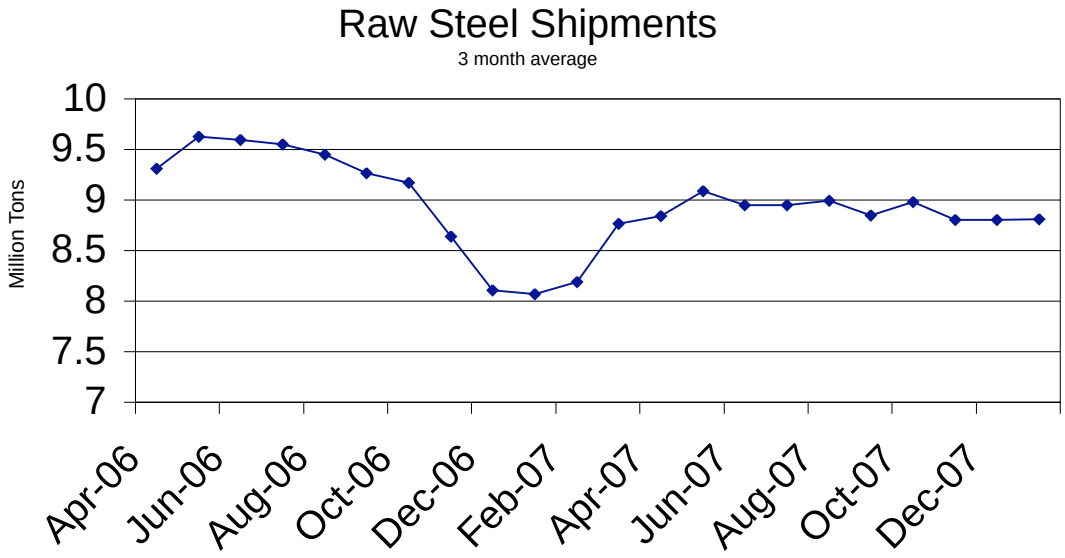
SFSA Trend Cards (%-12 mos. Ago)	12 Mo Avg	3 Mo Avg	Jan	Dec
Carbon & Low Alloy				
Shipments	2.4	4.0	-9.9	9.0
Bookings	-4.7	15.4	-18.3	45.0
Backlog (wks)	10.5	9.9	9.6	9.5
High Alloy				
Shipments	7.9	-5.7	28.8	12.1
Bookings	5.4	-10.7	-13.8	31.6
Backlog (wks)	11.0	10.3	9.5	10.5
Department of Commerce Census Data				
Iron & Steel Foundries (million $)				
Shipments	1,595.8	1,619	1,626	1,618
New Orders	1,589.7	1,593	1,589	1,587
Inventories	2,505.6	2,569	2,555	2,588
Nondefense Capital Goods (billion $)				
Shipments	66.8	68.4	69.3	68.4
New Orders	76.1	77.4	74.9	81.2
Inventories	122.5	127.0	128.7	126.7
Nondefense Capital Goods less Aircraft (billion $)				
Shipments	61.3	62.6	62.7	63.0
New Orders	62.6	63.4	64.1	64.4
Inventories	98.8	100.8	101.2	100.7
Inventory/Orders		1.59	1.58	1.56
Inventory/Shipments		1.61	1.62	1.60
Orders/Shipments		1.01	1.02	1.02
American Iron and Steel Institute				
Raw Steel Shipments (million net tons)	8.9	8.8	9.2	8.5



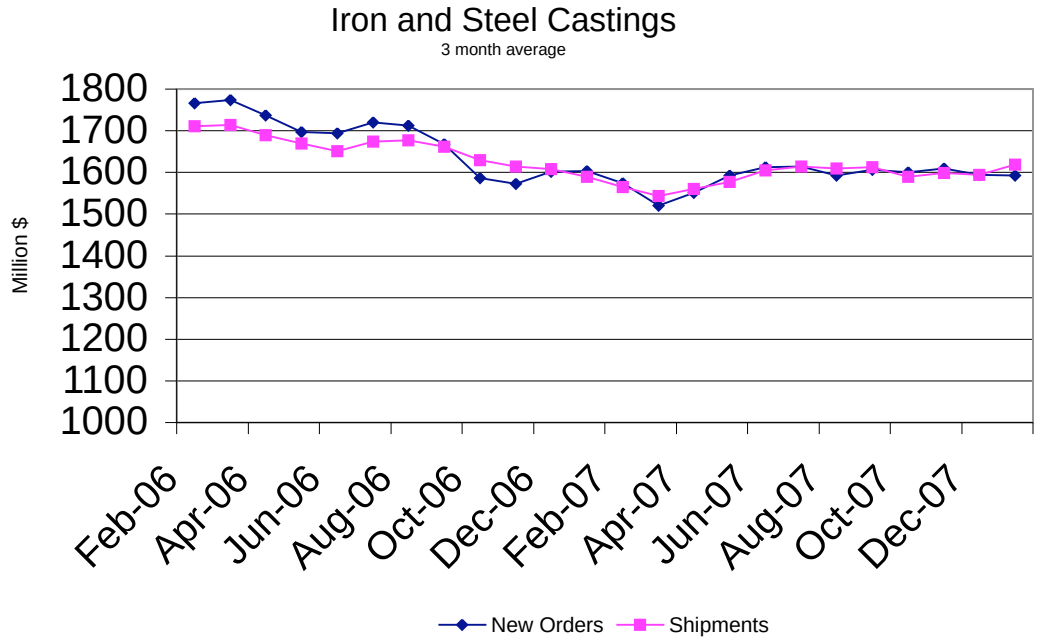
SFSA Postcards



SFSA Postcards



AISI Data



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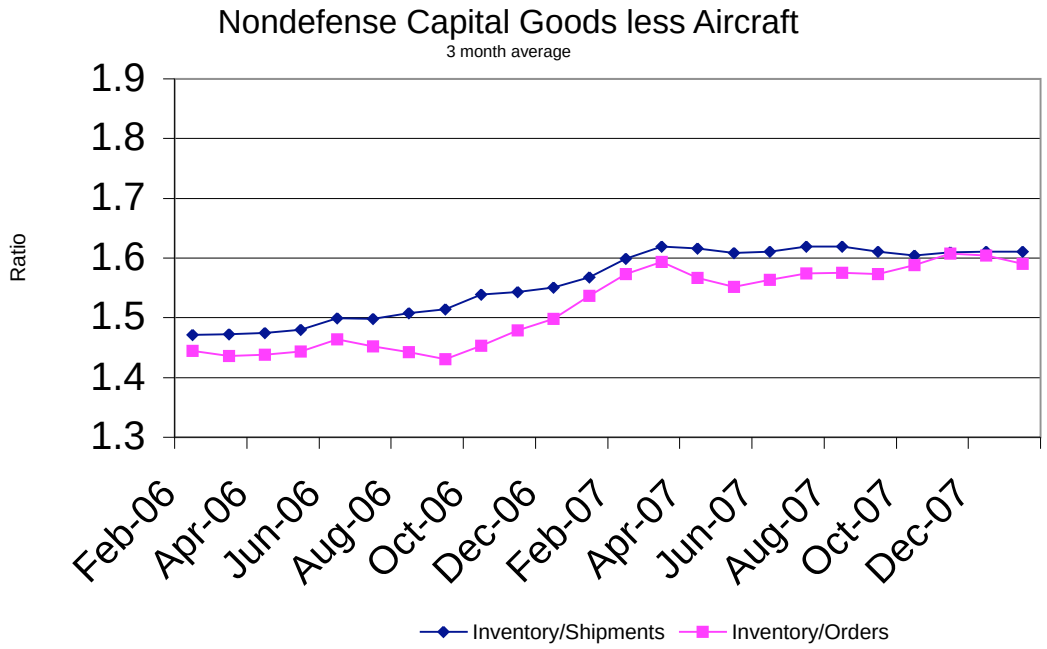
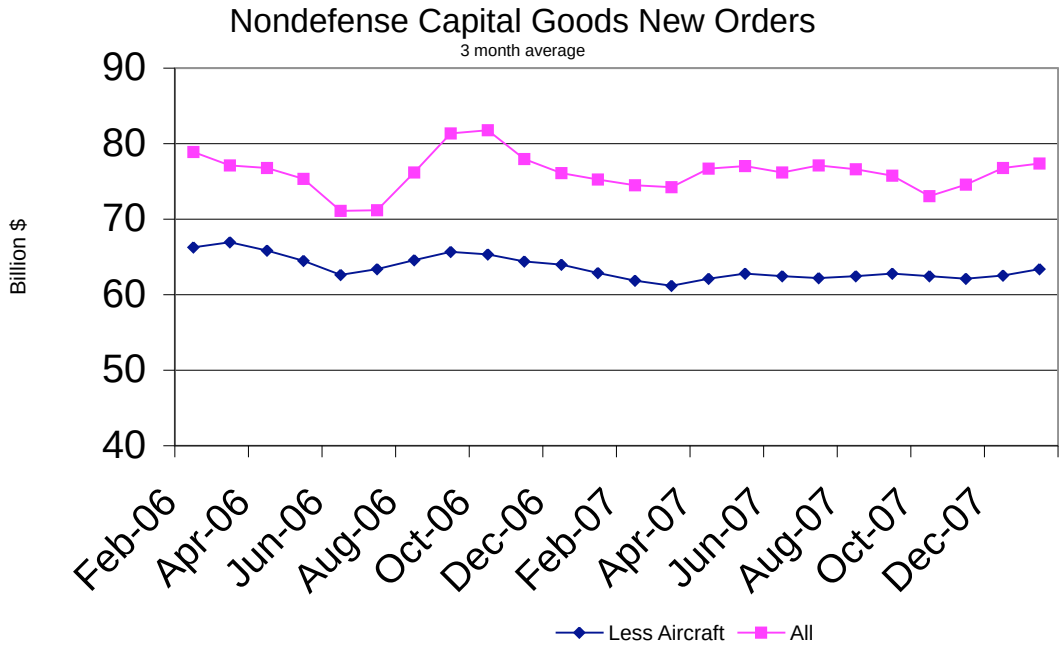


Department of Commerce



Department of Commerce

AmeriCast Acquires A.G. Anderson Ltd.
(Press Release)

Atchison, KS (Wednesday, April 02, 2008) AmeriCast Technologies announced today it has completed the purchase of A.G. Anderson Ltd. Based in London, Ontario, Canada, A.G. Anderson is a respected source for patterns, high integrity ferrous castings and machined components. The hallmark of Anderson's success is delivering reliable engineered components on time with superior service and exceptional value.

"We are very pleased and excited that AG Anderson has joined our team. Anderson brings to AmeriCast added capability and capacity to provide finished cast components to our customers. There are very clear synergies with Anderson and our existing machining operations at London Precision Machining that will benefit our customers," said Tom Armstrong, CEO, of AmeriCast. "This acquisition, similar to Atlas Castings and Technology last year, further strengthens and expands AmeriCast's position as one of North America's premier value-added, steel casting and machining suppliers while diversifying and expanding our market place opportunities."

David Anderson, President of A.G. Anderson Ltd., added, "These are exciting times. There are a lot of synergies between our different business units, and we at Anderson's look forward to building on those and strengthening our position as leading supplier of complex, finished machined castings."

AmeriCast (www.americasttech.com) serves the process equipment, power generation, hydro, military, mining, ship building, transportation, construction and industrial machinery markets through its six North American production facilities.

Castle Harlan, Inc., the New York-based private equity investment firm, purchased AmeriCast in 2006. Founded in 1987, Castle Harlan invests in controlling interests in the buyout and development of middle-market companies in North America and Europe. Its team of investment professionals has completed 48 acquisitions since its inception with a total value in excess of $9 billion. Castle Harlan's current portfolio companies employ more than 42,000 people. The firm traces its roots to the start of the institutionalized private-equity business in the late 1960s.

Forward-Looking Statements

This press release contains forward-looking statements. These statements may be identified by the use of forward-looking terminology such as "anticipate," "believe," "continue," "could," "estimate," "expect," "intend," "may," "might," "plan," "potential," "predict," "should," or "will," or the negative thereof or other variations thereon or comparable terminology. In particular, statements about our expectations, beliefs, plans, objectives, assumptions or future events or performance contained in this press release are forward-looking statements.

We have based these forward-looking statements on our current expectations, assumptions, estimates and projections. While we believe these expectations, assumptions, estimates and projections are reasonable, such forward-looking statements are only predictions and involve known and unknown risks and uncertainties, many of which are beyond our control. These and other important factors may cause our actual results, performance or achievements to differ materially from any future results, performance or achievements expressed or implied by these forward-looking statements. Some of the key factors that could cause actual results to differ from our expectations include:

- general economic conditions and conditions affecting the industries we serve;
- competition and our ability to retain our significant customers;
- fluctuations in the price and/or supply of raw materials;
- our ability to effectively and cost efficiently integrate acquisitions that we consummate;
- disruptions and liability exposure from industrial accidents; and
- other risks and uncertainties which may be outside our control.

Given these risks and uncertainties, you are cautioned not to place undue reliance on such forward-looking statements. The forward-looking statements included in this press release are made only as of the date hereof. We do not undertake and specifically decline any obligation to update any such statements or to publicly announce the results of any revisions to any of such statements to reflect future events or developments.

AMC

American Metalcasting Consortium

Casting Solutions *for* Warfighter Readiness

Technology Review

June 25-26, 2008

Sheraton Gateway Suites
Chicago - O'Hare, Illinois

Register online at:
amc.aticorp.org/techreview.html

AMC

Industry, government *and* academia developing and deploying metalcasting technologies that support U.S. warfighters