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SPECIALTY METALS AND THE NATIONAL DEFENSE December 2005

An Important Strategic Problem is Identified.

Over the last 24 months, the Specialty Steel Industry of North America (SSINA) has expanded its membership to include virtually all North American manufacturers of stainless steels and Ni base alloys, including superalloys. Other specialty metals such as titanium and titanium alloys, zirconium, and niobium alloys are also produced by some SSINA member companies. Importantly, the focus of SSINA is specialty metals, not conventional “steel”. It is also important to note that the US industry is modern and efficient, and is at the leading edge ... throughout the world ... in both new product development and the implementation of advanced manufacturing technology.

Most recently, SSINA has been pursuing one primary mission – bringing attention in Washington to what we believe is a potentially serious long range strategic problem for the United States. It is our belief that over an extended period of time, **the US could gradually lose its domestic specialty metals manufacturing base if US manufacturers of specialty metals ... like so many other manufacturers ... move production offshore in search of what they perceive to be better business opportunities and higher profits.** As importantly, were this to happen, not only would the US lose its manufacturing base, but **it would also lose its leading edge position in specialty metals technology ... along with its ability to develop new technology.** This is because if the manufacturing base moves, research and development soon would be shifted abroad as well in order to take advantage of lower costs and ties to the manufacturing process. In this industry... **“our factories are our laboratories.”** This link between manufacturing and technology development is not well understood or appreciated by most people. It certainly seems not to be appreciated by many members of the US government or by so-called free trade economists who permeate Washington and other policy making centers around the world. It is naïve, at best to think that a leading edge position in specialty metals technology can be maintained in the US in the absence of a healthy and vibrant domestic manufacturing activity.

Why is this important to US national interests? Were this to happen and specialty metals manufacturing and technology development to leave the country... the impact of such a transition on US defense systems and defense capabilities would be significant and decidedly negative. In short, **the specialty metals industry is critical to national defense.** Maintaining a healthy domestic specialty metals industry and its ability to

create new, leading edge technology is vital to the security interests of the US. Advanced weapons systems can neither be built nor operated without these materials. The next section of this report is intended to justify this claim.

Specialty Metals are Critical to National Defense

Over the past 15 months, SSINA, working with the Defense Department, has identified many critical defense applications that rely on specialty metals. This has been done in order to provide convincing evidence that these materials are, in fact, critical to national defense.

Specialty metals are vitally important to virtually every US military platform. Simply put, weapons systems can neither be built nor operated without these materials. Whether it is missiles, jet aircraft, submarines, helicopters, Humvees® or munitions, American-made specialty metals are crucial components of US military strength. Attached as Exhibit 1 is a sampling of current leading edge military applications of specialty metals as identified by surveying SSINA member companies. Exhibit 1A contains more detailed company-specific descriptions of selected applications from Exhibit 1. Both Exhibit 1 and 1A represent only a small subset of the many defense related applications of specialty metals. These exhibits are not intended to be inclusive, rather, they are intended to be illustrative of the critical role that these materials play. Technical and business confidentiality issues prevent a more complete disclosure of these and other important applications.

Further illustration of the critical importance of specialty metals to national defense is provided by DOD studies, themselves. Beginning in 2004, the Department of Defense (“DOD”) has conducted Defense Industrial Base Capabilities Studies (“DIBCS”) to determine the amount of equipment and services needed to meet national defense requirements and to focus on critical technologies that are important to 21st century warfare. DOD has published five DIBCS reports, which include: (1) DIBCS: Battlespace Awareness (January 2004); (2) DIBCS: Command and Control (June 2004); (3) DIBCS: Force Application (October 2004); (4) DIBCS: Protection (December 2004); and (5) DIBCS: Focused Logistics (June 2005). The DIBCS reports all contain discussions of selected defense applications currently used for US military platforms, as well as applications that will be utilized in future platforms. During an initial meeting with DOD, we were asked to review this list of applications and help DOD understand the role that specialty metals play in these critical applications. We have done so, and the results are shown in Exhibit 2. This summary clearly shows that specialty metals are essential to many key defense applications identified by DOD in the DIBCS series. It is also notable that there are many defense applications for specialty metals that are not referenced in the DIBCS studies.

Not only are these metals an integral part of many diversified military applications, it is apparent from these examples that specialty metal products are not commodities. Rather, they are very high tech in nature and are in a continuing state of

technology development. They are not “off the shelf items”. Often it is the superior performance of these materials under severe operating conditions that enable defense systems to function at high levels of performance and to do so reliably. Equipment maintenance is frequently a very important tactical issue. **As these examples illustrate, specialty metals play a major role in both the design and reliability of defense systems, and both of these areas are in a continuing state of technology development.** Because of the critical nature and advanced technology characteristic of these materials, and because so many of them have been invented and developed by the domestic specialty metals industry, many of these materials are proprietary and either “sole-sourced” to a single US company or supplied only by the domestic industry.

As additional confirmation of the critical importance of specialty metals to national defense, over 30 years ago, Congress enacted the Specialty Metals Amendment to the Berry Amendment in order to recognize the importance of the industry to national defense and help insure its long term survival. The ongoing importance of this statute to national defense has been confirmed virtually every year since during debate in Congress. Most recently, the DOD published notice in the Federal Register of their intent to strictly follow the provisions of this law.

Can We Afford to Allow our Industry to Atrophy over Time and Leave the Country?

... and if the Answer is No ... What Should We do About It?

It is relatively easy for people familiar with the specialty metals industry to agree with the assertion that US defense capability could be significantly compromised if the specialty metals industry were to move offshore in pursuit of increased profitability. Hopefully the above examples provide convincing proof of this assertion to those less familiar with the industry. And so the answer to the first part of this question is clearly ... No ..., we cannot afford to allow this industry to leave the country. **But what should we do about it? What can we do about it?** Encouragingly, more and more often we are being asked this specific question as SSINA representatives discuss this issue with various individuals in Washington.

Our response to this question is simple and direct: The US lacks a coherent strategy related to all manufacturing ...but more importantly in this context ...it lacks one related to specialty metals ... and the US government needs to move quickly to create one. What are the factors to consider in creating such a strategy? The answer to this follow-up question boils down to addressing how companies, or CEO's of companies, make investment decisions. Why do they choose to invest overseas instead of the US? Can anything meaningful be done to favor investment here that is consistent with our beliefs in the importance of the free enterprise system and the principles of free and fair trade?

In essence, companies make investment decisions based on the expected rate of return on their investments relative to their cost of capital. It is critically important to

recognize that these factors are considerably different in different parts of the world. There is not a level playing field and each year the field seems to tilt further in favor of investment outside the US. Most importantly, other countries are manipulating the field to their advantage while our country is sitting on the sidelines doing very little to influence investment decisions. It is important to remember that the very nature of the US free enterprise system encourages individual companies to pursue the financial interests of their shareholders without regard to any overarching national objectives. Given that fact, **the only meaningful way to influence this situation is for the US government to make sure the playing field is at least level with regard to factors influencing investment. And that is not being done.**

Incentives to invest overseas continue to increase. The list is long and includes favorable tax treatment, lower operating costs .. some legitimate ... but some heavily influenced by foreign government intervention, outright subsidies including currency manipulation, and inconsistent application of the principles of free and fair trade that end up favoring foreign investment. Access to foreign markets is an additional reason, but the ability to do so is often manipulated by foreign governments, and is becoming increasingly linked to a rapid transfer of “best available” technology from the US to foreign countries. This is particularly true in China’s case. In other words, technology transfer is often a quid pro quo for investment in China. Numerous examples of this across the spectrum of the manufacturing sector appear almost daily in the business press. They are rarely characterized by the media as problems for US national security. Instead, they are viewed as opportunities for US corporations and their shareholders.

China’s approach is a systematic, highly coordinated, strategic initiative which left unchallenged will eventually result in the transfer of significant technology and manufacturing capability to China. China’s infrastructure in this area is being completely rebuilt with state of the art equipment, which will result in an increase in its global position in the specialty metals sector and downstream manufacturing industries. However, to date, critical manufacturing process technology that would be necessary for most important defense applications has not been transferred to the Chinese, to the best of our knowledge. On the other hand, in the commodity stainless steel arena, a combination of foreign investment, significant transfer of western process technology, and government subsidization have resulted in a dramatic growth in capability. In a period of less than three years, China has become a major exporter of stainless steel flat-rolled products – a core commodity product of US producers. China is now the number two offshore source of stainless flat-rolled products in the US market, having increased its exports to the US by over 500% in the past year. In stainless long products (bar, rod, wire), which are critical to numerous aerospace and defense programs, Chinese imports have increased by 83%.

In this context, it is important to understand that there is not a sharp line that separates critical defense related technologies from important processing technology related to the manufacture of these same specialty metals for non-defense applications. It has taken our industry decades to develop the basic processes required to make high quality specialty metals for demanding non-defense related applications, e.g. commercial

aerospace. Therefore, there are numerous, basic technologies that while being US export-compliant, are nonetheless critical to development of leading edge defense applications. Transferring basic technologies to China would greatly facilitate Chinese mastery of more leading edge technologies.

At the same time, **disincentives to invest in the US continue to mount**. The list is also long and includes exponentially rising costs of energy, healthcare and post-retirement benefits, exorbitant regulatory and legal costs, high taxes, along with increasing concerns regarding enforcement of US trade laws and the ability of the US to establish fair trading practices with its global trading partners, as required by all WTO principles and agreements.

What are the solutions to this problem?

At first blush, it almost seems that there is no solution and that the eventual demise of the US specialty metals manufacturing baseand its ability to develop new specialty metals technology is inevitable. It is only a matter of time. But this is **not** how SSINA feels. We believe that meaningful things **can** be done to address this potential problem.

Before discussing our suggestions, it is important to understand one other important feature of this industry. Leading edge defense applications represent less than 10% of overall sales of these specialty metals companies. However, defense-related products are processed over the same equipment and developed by the same engineers that support all the other businesses of these companies. Because of this, SSINA member companies are not typical defense contractors. They do not derive most of their sales and profits from their defense business. Thus for this industry to attract investment, survive and prosper here in the US, it is the overall financial health of these companies that is of utmost importance, not the profitability of their defense business per se. So in looking for solutions to this problem, we must look at very fundamental issues related to the core businesses of these companies that tilt the table in favor of making investments in the US.

What Should be Done to Level the Playing Field As to How Investment Decisions are Made?

In short, we need to do two things: First, the US government ... working with industry ... needs to become proactive. It needs to create an industrial policy that encourages investment here ... and secondly ... we need to help ourselves by accelerating efforts to reduce costs, automate and streamline manufacturing processes here in the US.

In the remainder of this report, we concentrate on the first issue ... that is the US government's role ... the issue of creating and enforcing an industrial policy that levels the playing field relative to making ongoing investments here in specialty metals manufacturing and technology development.

There is much confusion on this subject in Washington. Industrial policy is not a popular subject. It is often associated with protectionism, isolationism, and with the government picking winners and losers. All of these characterizations are at odds with the free enterprise system. For that reason they are unacceptable concepts and can be summarily rejected. Unfortunately, emotions run so high on this issue that open-minded discussions of more creative industrial policy concepts seldom if ever seem to occur.

SSINA believes that an effective industrial policy consistent with the principles of free enterprise **can** be created. It is our belief that **the US should develop an industrial policy that levels the “investment” playing field making the following simple assumptions:**

1. US multinational companies will continue to invest here if the “investment” playing field is relatively level because investing in the US will be a viable, reasonably low cost option with considerably less business risk.
2. It is not necessary or even desirable to stop investment overseas by multinational companies. It is only necessary to create an environment that encourages significant, ongoing investment here.
3. If investment continues to occur in the US at a reasonable rate, the US will **never** effectively lose its manufacturing base and the competitive advantage that it currently enjoys in specialty metals.

Note that **none of these concepts is protectionist or isolationist in nature.** In our opinion, it would be wrong to attempt to build a wall around the US. This is not necessary or desirable, in our opinion. Many SSINA member companies are multinational companies. We are not suggesting that this needs to change.

At the risk of oversimplifying the situation, SSINA believes that **three primary issues are involved in leveling the “investment” playing field: trade, costs and taxes.** To us, it is convenient and helpful to view these issues as three legs of a stool that tilt the table one way or another with regard to how investment decisions are made by multinational companies. We intend to develop detailed position papers around each of these issues in the coming months, but at this point we would like to comment on each in a little more detail.

Right Now Trade is Not Fair....

Many countries in the world are not playing by the rules of fair trade, including those established by the WTO. Numerous examples exist including government subsidies, currency manipulation and dumping. The US, although encouraging the reduction of tariffs in pursuit of free trade, is woefully lacking when it comes to demanding the enforcement of fair trading principles by our trading partners as stipulated in WTO agreements that they have signed. Our government’s ineffective strategy and

tactics in this area actually tilt the table in favor of foreign investment rather than encouraging investment in the US.

In this regard, it is instructive to ask: What constitutes a government subsidy in this day and age? For example, if a foreign government such as China is:

- manipulating the supply and demand balance of a given industry in their home country by requiring major capital investments to be approved by the government prior to implementation, or
- orchestrating the consolidation of industries, or
- regulating the equity ownership of individual companies, or
- restricting the export of critical raw materials while, at the same time,
- attempting to use government funds to purchase equity interests in companies owning and producing critical raw materials outside of their own country, with the intent of making these raw materials available to Chinese producers, which compete against US manufacturers of specialty metals and which must procure these same raw materials in an open market --

... are these subsidies? Maybe not by some conventional definitions, but they should be considered as such. The impact of these actions on profitability can be significant and tilt the playing field against investment in US manufacturing. DOD procurement policies may actually accelerate and encourage this process.

Current foreign direct investment policies of western companies in other industries already are facilitating the transfer of technology and manufacturing to China. If and when this happens in specialty metals, it will result in the gradual loss of US defense capability, and we will have facilitated our own demise.

Apart from trade-related issues, China's growth, per se, clearly has fueled the unparalleled run-up in prices of all raw materials, resulting in significant increases in the price of many specialty metals that contain these raw materials.

Cost Structures are Not Fair ...

Many cost elements, *apart from labor*, are much higher in the US than in other locations around the world. This does not need to be the case. For example, cost factors related to energy, environmental regulations, other regulatory requirements, and post-retirement benefits are disproportionately high for manufacturers of specialty metals in the US and do not need to be. Even in the case of labor costs, the pursuit of job rule flexibility and automation by individual companies in our industry ...and not by government policy ... has significantly reduced any cost advantage attributed to foreign investment. An effective US industrial policy in this area would endeavor to level the "cost" playing field in areas other than direct labor. For example, it might: include