

# **SPIKE IN METAL PRICES, PART II**

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## **HEARING** OF THE COMMITTEE ON SMALL BUSINESS HOUSE OF REPRESENTATIVES ONE HUNDRED EIGHTH CONGRESS SECOND SESSION

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**THURSDAY, MARCH 25, 2004**

HOUSE OF REPRESENTATIVES,  
COMMITTEE ON SMALL BUSINESS  
*Washington, D.C.*

The Committee met, pursuant to call, at 9:35 a.m. in Room 2360, Rayburn House Office Building, Hon. Donald Manzullo [chairman of the Committee] presiding.

Present: Representatives Manzullo, Kelly, Akin, Bradley, Udall, Napolitano and Bordallo.

Chairman MANZULLO. Good morning, and thank you for being here today as we examine further the spike in metals prices, and the effects on small manufacturers.

Can you all see the chart back there? Well, most of you can. Just twist your necks. If you could tilt it just—that is good, that is good.

This is the 57th hearing the Small Business Committee has had on American manufacturing issues since 2001. We especially want to thank several of our witnesses who have traveled great distances to be with us here today.

Earlier this month our Committee held its first hearing on the issue of steel shortage by emphasizing the plight of manufacturers struggling with the sudden and unexpected surge in steel pricing.

Unfortunately, this phenomenon was not limited to steel alone. Other metal workers, such as those in copper, nickel, and aluminum industries, are also facing historically high rates for the raw materials they need to fill orders, keep their shops open, provide jobs, grow our economy, and feed the families.

For example, the price of copper soared to an eight-year high of nearly \$3,000 a metric ton at the end of February. The price of nickel has more than doubled in the last year. Since September of 2003, the price of aluminum has gone up an average of 15 cents per pound.

As we stated in our last hearing, these manufacturers are stuck between purchasing the raw materials they need at these inflated prices, and filling orders they have already set prices for contractually. While some shops have been able to pass these increases along to their customers, many cannot, and it is threatening their very livelihoods.

The charts we have today, as well as attached to our statement that can be picked up at our press table, document some of the global factors contributing to these spikes.

Chart number one shows that while steel scrap imports into the United States have remained relatively stable over the past four years, steel scrap exports have nearly doubled.

Christy, do you want to put the second chart up there?

Chart number two shows the correlation between U.S. steel imports, which have steadily declined over the past six years, and exports, which again have remained relatively stable.

Chart three shows the five countries that import the largest amount of U.S. scrap steel. China has become the number-one recipient of U.S. steel scrap, receiving 3.5 million net short tons of scrap in the year 2003. You can see just by looking at these charts the phenomenon that is occurring worldwide.

Similarly, chart four—you are pretty good on those charts, Christy. It reminds me of, do you remember the old Johnny Carson Show, where he used to put up the directions to the guy with the car lot? You don't remember that, Christy.

[Laughter.]

Chairman MANZULLO. I just turned 60 yesterday, so you have got to bear with me. I am having a very difficult time. I can't believe I feel so good, I am 60 years old, you know?

Similarly, chart four shows China's insatiable need for steel and the raw materials to produce steel. Chinese steel consumption is in the blue there, and the Chinese steel production is in the barber-pole stripe next to it. And you can see where China is falling way short of what their actual needs are. And obviously, the gap between what they produce and what they are consuming you can see continues to grow. And that is where the steel is going.

In 1996 Chinese production and consumption of steel were about equal. In 1999 China started consuming more steel than it could produce, and that need has grown exponentially in the past five years.

Production of automobiles in China is up 70 percent in one year. That is the growth of just that one particular industry. And most of that, I think 99 percent of that, is for domestic consumption.

The thought then becomes what can we do about it. There is no easy fix for this, because we are dealing with a wide variety of market forces and global issues acting in unison causing these increases.

That said, there are several steps that we, as a nation, can take to ensure we are doing all we can to make certain American manufacturers are on a level playing field with their counterparts abroad.

First and foremost, the Administration must continue to fight unfair foreign trade practices. Many foreign countries are flouting international trade rules to get an unfair competitive advantage over U.S. manufacturers. This unfair advantage has increased the demand for their foreign products, which has increased their demand for U.S. steel and other metals, which increases the U.S. price for those commodities.

China specifically manipulates its currency, and directly subsidizes its corporations to give them an unfair advantage in the buying power over U.S. companies. The Administration must continue to crack down on foreign currency manipulation, and should support the U.S. manufacturing sector's effort to proceed with a Section 301 trade case against China for pegging its currency to the U.S. dollar.

In addition, Congress should pass HR 3716—that is Congressman Bill English's bill—to allow U.S. petitioners to file countervailing duty trade cases against non-market economies, which would allow us to get tougher on China's trade abuses. I believe that law was changed not to allow that remedy in 1974.

The Administration should also review all existing anti-dumping and countervailing duty orders placed on foreign imports of steel into the U.S. to see if they are warranted, considering the tightened markets in America.

In addition, the Administration should immediately begin a study to consider the validity of imposing export controls on U.S. scrap steel. The Administration does not support export controls. It should draft a plan to negotiate the removal of current export restrictions on scrap steel and coking coal products imposed by Russia, the Ukraine, Venezuela, and China.

Failure to remove the foreign export restrictions should result in a hiatus in the WTO accession process for Russia and the Ukraine.

We must also work to lower energy costs for U.S. steel and metal producers. One of the factors driving up costs for U.S. steel and metals is the surging energy prices. The Senate must pass HR 6, the Energy Bill, with the President signing it into law, so that we can increase energy production in this country and lower the production costs for steel producers.

We must also assess this problem within the context of our national security. The Department of Defense, and the Bureau of Industry and Security, and the Department of Commerce must examine whether the steel and metal shortages in America will have an adverse effect on our defense industrial base and our national security. They must determine whether the U.S. Government needs to enact the Defense Production Act to restrict the export of certain critical metals or raw materials necessary to defend the United States from its enemies. We must also garner a comprehensive review of the situation.

The Administration, through the Department of Commerce or the U.S. International Trade Commission, via a Section 332 investigation, should examine more closely the reported shortages of scrap steel and coking coal to determine the effects they have had on production problems, and the overall competitiveness of the U.S. industry.

Folks, time is of the essence. And we must begin taking action to bring metal markets back into balance.

Our manufacturers are holding onto the thinnest of threads, and they need our help to remain the thriving backbone of our economy.

Given the opportunity, these companies can and will recover what has been lost. But they can't do it themselves. Our government must pave the way.

Congressman Kelly, did you want to have a short opening statement? Because I know this matter is of critical importance to you, also.

[Chairman Manzullo's statement may be found in the appendix.]

Ms. KELLY. It is a matter of critical importance to me.

I don't have an opening statement, except to say that Chairman Manzullo and a number of us are trying to really work on this

issue. The broad extension of shortages and high cost into the U.S. economy is something that is very worrisome to a number of us.

I want to say that I spoke with someone in the White House recently. I know that they are aware of this. There are a lot of people trying to work on it. It is not an easy problem. It is something we are going to try to work through, but because it is complex, it is going to take more time than we would like. And we, here in this Committee, feel the urgency.

And Chairman Manzullo is a very good band leader on this. So I look forward to the testimony of this panel.

But I also want you to know that we are trying to work on it. And everything you say here today will help give us some tools to work that battle with.

Thank you.

Chairman MANZULLO. Thank you, Mrs. Kelly. The rules are the testimony is five minutes. When you see the yellow light you have one minute; when you see the red light, I start to get excited. And if somebody gives me a gavel, I can begin to tape the gavel.

Our first witness is Constance Holmes. Ms. Holmes is a senior economist and Director of International Policy of the National Mining Association. You can understand why she would be the first witness, because it all starts in the mines, doesn't it, Connie?

Ms. HOLMES. It does, indeed.

Chairman MANZULLO. And we look forward to your testimony. You are going to have to pull that microphone up real close to you and speak very close into it. Thank you.

#### **STATEMENT OF CONSTANCE D. HOLMES, NATIONAL MINING ASSOCIATION**

Ms. HOLMES. Thank you very much. We really appreciate the opportunity to be here today. And we couldn't agree with you more that the manufacturing industry, most especially the small manufacturers that are the backbone of our economy and job creation, is absolutely vital to our nation and to our national security.

But we also need a very strong mining industry to support that manufacturing base. And because United States manufacturers have to have access to metals and raw materials that are available domestically to protect them from the uncertainties brought about by increasing dependence on imports and the vagaries of the world market.

The strength of these two industrial sectors are vital for our national security and our economic security.

I do have to preface my statement, Mr. Chairman, by telling you that our information that we use here today is based entirely on public record and historical information.

You asked us to talk for a bit, to discuss the reasons that prices for raw materials, including base metals, have risen to current levels from the low prices that have been the norm over the past several years.

As you know, the base prices aren't set in negotiations between a supplier and a buyer, as some commodities are. Rather, they are established on the basis of supply and demand on a global market, through a commodities exchange, like the London Metals Exchange. And in the past five years, these prices have been very,



very depressed due to a global surplus in supplies of metals and raw materials.

In the past year, however, we have seen the market for these commodities move up quickly, and move from a supply surplus to a supply deficit. Strong economic growth, led by the phenomenal growth in China that you have so aptly illustrated in these charts, has increased the demand for all metals, raw materials, and energy. And again, as an aside, we agree with you on HR 6.

But because we have had several years of surplus, and the accompanying low prices that that surplus has caused, investment in mining and the mining infrastructure has been very limited, not only globally, but particularly here in the United States.

Globally, the reason is, in part, those low commodity price levels. But in the United States, where exploration expenditures last year were 66 percent lower than five years ago, and applications for new permits have fallen by 73 percent, there is a systemic reason.

U.S. Government policies have actively discouraged, and sometimes even prevented, exploration and development of our nation's great natural resource base. It has even been difficult to replace reserves as they are being mined out, even if you are trying to replace them at a local mine, existing mine.

Two recent studies have shown that the U.S. is unfortunately ranked among the least attractive places for mining investment. The top reason is the difficult, expensive, and very, very lengthy time frame associated with obtaining permits to explore, develop, and operate mining-related facilities, whether it is for a new facility, or whether it is to expand existing operations.

And as you know, when a board of directors is faced with a multi-million-dollar decision, an investment choice between a location in the U.S., where it might take four to more than 10 years to put a mine on line, versus the same type of mine where return can start in one or two years, unfortunately the choice isn't going to be in the United States. That hurts U.S. mining, and it hurts U.S. manufacturing, whether large or small.

Until recently a decline in domestic mining wasn't really viewed as being very significant, because demand for raw materials can always be satisfied either by buying from stocks in existing warehouses, or buying increasing imports.

But as we have seen all too well, the ability to meet our requirements this way is very temporary. As global demand has improved, most metal markets have moved into a deficit, and demand growth has greatly exceeded the ability to increase supplies.

But to make sure that manufacturers do not face a shortage of metals and other raw materials over the long term, it is imperative that we develop and implement a national minerals policy that allows our mining companies access to resources for development, and assures that these resources can be developed in a timely, socially and environmentally responsible manner.

We have to address the permitting issue, reform the mining law, and reduce regulatory uncertainties. Actions that will help turn the U.S. from the least attractive location for investment to the most attractive location. We have to reverse the decline in mining, and reverse the need for our manufacturers to increase dependence on imported raw materials.

In the short term, there is likely to be an increase in metals and raw materials production brought about by these current high price levels. Some of the increase may be in the U.S., but most is going to be off shore.

But as a matter of economic security, we need a long-term solution to make certain that our manufacturers, our small manufacturers and our creators of jobs, and our large manufacturers, have the materials that they need to remain in business and remain competitive.

And although we haven't discussed national security issues, it goes without saying that we must maintain a strong manufacturing and mining base for those reasons, as well.

Mr. Chairman, thank you, and we look forward to working with you and members of the Committee to find the solutions that will help provide additional supplies of our needed raw materials to power U.S. economic growth and jobs.

Thank you.

[Ms. Holmes' statement may be found in the appendix.]

Chairman MANZULLO. Ms. Holmes, I wanted to do something a little bit unusual here. Could you just take one minute to talk about copper?

Ms. HOLMES. Yes.

Chairman MANZULLO. Because that will segue into our next witnesses.

Ms. HOLMES. All right, very good. The situation in the copper industry is not unlike the situation in every other metals and mining industry in the nation.

Over the last five years, due to extremely low commodity prices for copper, we have reduced our mining levels by approximately 45 percent, since the highs were reached in 1997. It just simply has not been profitable for any mining industry in the country over the last several years.

The industry could be, and it is a very strong industry. It could come back in the United States, clearly. However, we do need to address the mining issues that I discussed in order to encourage and allow the copper industry and all of the other metals and mining industries in the country to be able to expand production, and do it as they always do, in an environmentally sound way.

Chairman MANZULLO. Thank you very much. Our next witness is Ed Cowan, Vice President of Manufacturing of Beck Aluminum Corporation in Mayfield Heights, Ohio. Where is Mayfield Heights?

Mr. COWAN. Cleveland.

Chairman MANZULLO. Cleveland, okay. We look forward to your testimony. Thank you.

#### **STATEMENT OF EDWARD COWAN, BECK ALUMINUM CORPORATION**

Mr. COWAN. I saw the gavel, I am speaking fast.

I am here today representing Beck Aluminum. We have two small manufacturing facilities, one in Cleveland, Ohio, and one in Lebanon, Pennsylvania. In the Sales and Marketing Group we have about 100 employees.

We are pretty typical in our business, and we are in the secondary aluminum business. That raw material represents about 80 percent of our product costs.

And incidentally, secondary metal, just to put everybody up to speed, refers to metal made out of scrap or primary metals made out of ore.

Our customers are mainly casters, and their raw material costs account for between 50 and 75 percent of their selling price, depending on the size and complexity of the castings.

We came here today to give our opinion on what we think has happened.

I will give you a little price history very quickly. The base alloy for our industry, the vanilla of the aluminum business, is A-380. The current price for that vanilla is 86 cents a pound. A year ago it was 73 cents a pound, two years ago it was 72 cents a pound. The increases in price that you see there are not as significant as you see in the other metals.

In the 99.7 price over the same period, we went from a current 82 to 68 a year ago, and 67 two years ago. And incidentally, those aren't straight-line increases. If you look at the back of the charts that we have, they bounce around pretty well.

A lot of people are blaming the metals price hike in aluminum on the Chinese purchasing scrap in the U.S. I think it is partially true. I think the real answer is there is a scrap shortage over here whether they take metal or not. It appears to me that this country could use about, oh, 9.75 billion pounds of aluminum scrap per year, of which we are getting about 8.25. And that billion and a half shortage is being absorbed by the primary producers who mix metal in to make certain alloys.

Our business is getting what we need. What we have done is we stole some metal from those guys so we can make our product, and the price goes up. But the real bottom line is, we see about a billion and a half pound shortfall of scrap needed in the U.S.

With that in mind, if there is a scrap shortage, how can the Chinese afford to buy scrap from our country? Well, the real answer is, and it is going to seem funny, there is a duty on primary aluminum in China. They put a duty on it because actually Chinese costs for production of aluminum are very high. They have high alumina costs for raw material. They have a high power cost. Obviously labor is low, but that is not the major concern for that.

So what we have is, since their prices are arbitrarily high or artificially high for primary, they can afford to pay more for scrap. Because you can substitute scrap for some of the primary consumption.

Now, in the last few months I have visited a lot of places in Boston, and I visited one in Baltimore yesterday to make the trip worthwhile. And every place I went to has a container going to China, of mostly low-grade material. I saw one place, I saw where they had pictures of warehouses—and one of our suppliers has just gotten back from China—where the warehouse is full of mixed metals, with women hand-sorting the metal. And I was told they make between \$25 and \$75 a month. I don't know if those wages are right, but if it is, we are going to have a heck of a time competing on those mixed metals and sorting it.

In January this year, it looked like China imported about 41,500 metric tons of scrap. That is less than they did a year ago. But I think the real answer was that the cupboard was bare here, and there wasn't that much scrap to export, since we have been so busy.

But there had also been a percent-and-a-half duty on scrap going into China. They rescinded that duty in January of 2004, so the spread between the primary metal and scrap is even wider. It makes our scrap even more affordable.

Incidentally, the Chinese imported last year about 650,000 metric tons of aluminum scrap. That is almost identical to the 1.5 billion pound shortfall that we had. I should tell you that only about 40 percent of that material comes from here.

I have seen prices all over the map in my 30 years. I have seen prices as low as 30 cents, and I have seen prices over a dollar, and that was back in 1989. But what happens is that small companies like us have a problem when these prices get high. If Beck Aluminum has to finance 30 million pounds of sales a month, and we have to pay for 45 days of sales, that is about \$30 million at 65 cents. If it goes to 85 cents a pound, that is \$38 million. Our bank doesn't increase our line because the price of aluminum went up. We have to shrink our business. It makes it very difficult.

A more disturbing fact to me I have seen this time is the fact that we have got a lot of parts going to China. Why are they going to China? We know they have high aluminum costs. What they do is have a subsidized casting cost. The companies are getting paid extra to export castings back here, whether it is for General Motors, a wheel, or to make a part. We had a guy lose a part to make a chalkline extender. It was a really cheap part, and they had to close the plant because it went to China.

We also have our competitors going over there. China is looking to have our competitors go over there and build plants to help them recycle better. It may be a good idea, it may be a bad idea. But it seems to me that since we have the best technology, to go help them doesn't seem like a really good idea.

Now, as much as I am against duties, and I am against duties, is that I think that we have to look at what is subsidized coming over here. Because if we lose our customers, we are going to lose our scrap, we are going to lose the base. And if that casting is subsidized, we should find out what it is and do something about it.

Thank you.

[Mr. Cowan's statement may be found in the appendix.]

Chairman MANZULLO. I appreciate your testimony.

Our next witness is Joseph Rupp, President and CEO of Olin Corporation, in the copper industry, from Norwalk, Connecticut. And we look forward to your testimony.

#### **STATEMENT OF JOSEPH D. RUPP, OLIN CORPORATION**

Mr. RUPP. Thank you, Congressman. I also represent, and am Chairman of the Board of Directors of the Copper and Brass Fabricators Council, and I appear before you today in both of those capacities. The Council represents between 80 and 85 percent of the total production of copper and copper-based alloy brass mill products, and there are 20 companies that are members of that.

Copper scrap and copper-alloy scrap, along with copper cathode, are the most critical raw materials for the Council's companies. We need large volumes of these materials at stable prices on a continuing and ongoing basis.

Between October of 2003 and March of 2004, as you have already stated, the price of copper has increased from 78 cents a pound to \$1.32 a pound, or an increase of 69 percent. And the other two major elements of that copper scrap have gone up at the same rate.

These rapidly-increasing prices are explained by the scarcity of copper scrap and copper-alloy scrap, as well as copper cathode. Attachment four contains two tables that tell you what is going on from a copper scrap point of view in the United States.

And similar to what my colleague just testified, what has happened in the United States from 1996 to 2003, the exports of copper-based scrap have grown from 397,000 metric tons to 735,000 metric tons. And basically what has happened is the amount that was consumed in the United States, which used to be 39.4 percent supply exported, has now gone to 65 percent of U.S. consumption in 2003.

There is a huge shift that has been occurring. More and more copper-based scrap has been leaving the United States, and the price of copper cathode has grown. Cathode pricing, as a result of the shortages, has seen premiums over Comex levels rise to levels we have never experienced before.

There have been some spot shortages of copper-based scrap, and it appears possible that U.S. stocks of copper cathode could be depleted this summer.

It would be difficult to over-emphasize how devastating the high prices and shortages of copper scrap and alloy scrap have already been, and might be in the foreseeable future. When we analyzed the data presented in some of the attachments, the picture arises that the major pressure on the global system is stemming from China. China has an insatiable demand for copper scrap, copper-alloy scrap, and cathode. This intensity has been seen in the high prices and the immediate payment in cash offered by Chinese agents to United States scrap dealers.

The Council's members cannot compete on these terms, not because we are not efficient, but because the Chinese firms have unfair advantages that we do not have. And I am referring to the Chinese Government's serious under-valuation of the yuan versus the United States' dollar. The suspected refund to Chinese importers of copper-based scrap of most of the value-added tax when downstream products made from that scrap are subsequently exported from China. And lastly, other reported subsidies.

It is also important, the imports of copper-based scrap into China are not being properly classified and valued, and consequently not the full imports duties and taxes are being paid.

These difficulties are made worse by the trade deficit of the United States with China. A major issue for us is the cost of transportation from the west coast of the United States for copper scrap is less than it is for transportation of copper scrap from the mid-west of the United States to the west coast.

One other aspect of the situation that should be emphasized. The escalating costs and threats to import material availability cascade

down the supply chain. They affect the lives of workers of many companies. Some of our customers have told us that imports from China of downstreamed copper and copper-alloy products are at prices that are equal to or less than the material cost of the same products that are produced in the United States. This is having a negative impact on our customers, as well as our Council's members.

In the area of free-cutting brass rods, screw machine companies in the industrial states of Illinois, Michigan, Ohio, Pennsylvania, and Indiana, and other places across this country, are left without customers for their end-use products. These small businesses are usually second- or third-generation family-owned companies with sales of \$5 to \$20 million, and employees of 20 to 150. The parts for faucets, valves, and industrial components that these companies produce from the free-machining brass rod cannot compete with the low-priced parts imported from China, and the sales of the United States parts are lost.

With respect to other products such as copper tube, counterfeiting has arisen. These products are manufactured in China, labeled as being of United States origin, and sold in third-country export markets that traditionally have been supplied by the U.S. It is aggravating that this is occurring at a time when our economy is starting to improve.

In conclusion, we are grateful to the Committee's attention to these difficult circumstances. And we thank you, Congressman, for this opportunity to appear before you today.

[Mr. Rupp's statement may be found in the appendix.]

Chairman MANZULLO. I appreciate your testimony.

Our next witness is John Lindstedt, President of Artistic Plating Company in Milwaukee, Wisconsin, representing the nickel industry.

And I am a Marquette Warrior. I graduated from law school there in 1970. Doesn't that impress you?

Mr. LINDSTEDT. I am a Badger fan, Congressman.

[Laughter.]

Chairman MANZULLO. You can still testify.

Mr. LINDSTEDT. Thank you, sir.

Chairman MANZULLO. A little bit of rivalry there, huh?

Mr. LINDSTEDT. Just a little.

Chairman MANZULLO. If you want to pull that microphone to you as close as possible, it will help out. We look forward to your testimony.

#### **STATEMENT OF JOHN LINDSTEDT, ARTISTIC PLATING COMPANY**

Mr. LINDSTEDT. Good morning, Mr. Chairman and members of the Committee.

Artistic Plating is an electroplating job shop providing gold, silver, nickel, tin, and copper finishes for a range of industries, including power distribution, automotive, defense, and medical.

I am testifying today on behalf of the National Association of Metal Finishers, the American Electroplaters and Surface Finishers Society, and the Metal Finishing Suppliers Association.

Like numerous other industries, metal finishing plays a significant value-added role in the manufacturing supply chain. Virtually all metal products in commerce require the service of my industry.

The metal finishings industry's role in corrosion protection alone in the U.S. provides about a \$200 billion annual economic benefit.

My company's experience on the metals shortage issues reflects very serious challenges faced by the larger metal finishing industry and related sectors. I will put it simply. At this point, the impact of intense price pressure on metals is one of the most troubling hurdles we face, even in the context of the long list of other excess overhead and cost factors that are dramatically diminishing our ability to compete. None of these costs have risen as dramatically as the cost of nickel.

The price of nickel for my company has increased by over 300 percent from 2002 to 2004. This is so, even in the light of several cost containment strategies we have pursued, including the formation of a holding company with several other metal finishing firms in the Milwaukee area, to share administrative services and to make bulk purchases. This organization purchases 300,000 pounds of nickel per year, and therefore we have one of the lowest prices in our region.

The price increases we have experienced would be a lesser challenge if my material needs for nickel and other metals were relatively low. Yet no single overhead cost constitutes as large a cost to the firm as metals materials, so the impact price increases for nickel is magnified in every job that I quote.

Nickel surcharges and price increases in the light of the current manufacturing dynamics cannot be passed on. Price increases equate to rapid job losses at my company and those of my peers. As a consequence, my firm is caught in a very destructive and rather agonizing dynamic.

In this cost/price freeze I face many production costs that are beyond my control, and continue to rise, while at the same time the price of my service continues to be forced down. To remain viable I have reduced staffing levels by over 40 percent, ceased any unnecessary purchasing, and have not installed any new capital equipment in over four years. This is unsustainable in the long term.

The phenomenon of metals pricing challenges results from the short supply of nickel and other metals. There are two main reasons for this.

First, the shrinking American manufacturing base is not generating enough scrap to feed our own domestic needs.

And secondly, the exploding manufacturing appetite of Asia, as you have so amply shown in your slides.

I would like to leave you with at least one specific recommendation that would provide some relief.

Under our current regulatory framework for managing the nation's industrial waste, we are literally throwing metals away. I have spent over a decade under two administrations with my top colleagues in industry and leading decision-makers at the USEPA, to study the metal byproducts that we in the metal finishing industry generate from treating metals in our affluent under the Clean Water Act. The resultant treatment sludge, under these regula-

tions, is defined as hazardous; and thus, the majority of these metal-laden products are shipped to expensive hazardous-waste landfills.

In an extensive waste benchmarking study conducted by the USEPA, greater than 50 percent of all metal treatment sludges are chemically non-hazardous by USEPA definition, but continue to be a listed hazardous waste, based on a set of prerequisites that were developed 25 years ago, and are no longer true.

The average metal finishing facility throws away an estimated \$40,000 annually in these metals. The typical regulatory cost to meet these requirements is in the range of 6.5 percent of gross sales.

Additionally, two of the primary metals involved are nickel and chromium. Both strategic materials for defense for which this country has no reserves.

U.S.E.P.A. has been working on a rule to address this issue for several years now. And we are informed we may see a proposed rule package by the end of the year. This is a modest, yet promising, effort on the larger challenges we face. It is disappointing that it has taken this long to substantiate and reconfirm the policy rationale for modernizing these set of regulations.

At this point, if all goes well, it will take another four to five years before this initiative may provide relief. This time needs to be shortened, and I would like to recommend this change in regulations as a challenge for the Committee to consider.

Thank you.

[Mr. Lindstedt's statement may be found in the appendix.]

Chairman MANZULLO. John, if you could have your Washington rep contact Joe here on our staff, we could prepare a letter to send to the EPA. I presume they are in the comment portion of the regulatory process now, is that correct?

Mr. LINDSTEDT. They haven't quite published it in the Federal Register. We are told hopefully about November.

Chairman MANZULLO. All right. But if you could have your—which group would it be? The metal finishers?

Mr. LINDSTEDT. It would be, the term here in Washington is the SFIC, Surface Finishing Industry Council.

Chairman MANZULLO. Okay. If you could have somebody there contact our staff, get hold of Joe, and then we would be glad to work with them on putting in some regulatory comment.

Mr. LINDSTEDT. Thank you.

Chairman MANZULLO. Thank you. Our next witness is a constituent from Rockford, Illinois. And I can't remember, Charlotte, where we first met, but it was at one of our many forum, or fora, whatever it is, back home on manufacturing issues.

Ms. VINCER. It was one of the Chamber meetings, I think it was.

Chairman MANZULLO. Was that the one in Belvedere?

Ms. VINCER. Yes, it was.

Chairman MANZULLO. And you came forward, and we talked about some of the problems going on. And Charlotte is the owner and sales manager of Riverside Spring Company in Rockford.

Charlotte, you are testifying here on the continuous shortage of steel, and the price continues to rise. We held our first hearing on this issue, when was it about, on March 10. And at that time, peo-



ple from the steel manufacturing sector and the scrap sector prophesied, to use that term, or forecasted, whatever it is, that the scrap shortage would see some amelioration, and that the price of steel had peaked at that point.

So we look forward to your testimony so we can measure their evaluations.

**STATEMENT OF CHARLOTTE VINCER, RIVERSIDE SPRING COMPANY**

Ms. VINCER. Thank you, Mr. Chairman and members of the Committee.

I truly appreciate this opportunity to share the effects the steel crisis has had on my small business, and many others.

My name is Charlotte Vincer. I am the Sales Manager and Partner of Riverside Spring Company, a small family-owned spring and wire form business located in Rockford, Illinois. I am proud to say we began this business with one machine and one customer, 15 years ago.

Over the years we have had considerable growth and positive profit margins. However, we have all felt the impact of the few years through the economic downturn. And I, of course, like many, did not feel comfortable when NAFTA came into play.

Today I wish to share with you how the steel prices have affected my business. I will tell you that what damage our business has sustained through the years of lost customers, by the consuming force of Asia and other countries, cannot even come close to the magnitude of the blow we have taken from this crisis.

Our profit margins have been cut nearly in half, and we are exhausted from the endless task of providing proof to our customers to the explanation of why we have to pass this increase on to them.

My dear friend, Scott Sommers, President of Freeway in Rockford, hit it right on the head. He said, "It all sounds good when our customers are willing to aid and work with us to combat this problem, but this is not a very value-added way of spending our day."

Something else that is very hard and imposed upon us is not knowing until the ship date what our cost or surcharge will be is absolutely pathetic, to say the least.

To further our aggravation, all contracts from our steel suppliers have been broken. How do we quote anything, not knowing or having our costs in control?

Also, to begin to search for new business at this moment is nearly impossible.

By choice, I did not want to be repetitive by providing graphs or inflated proof of my rod and wire costs, as I am certain you have been saturated with much of that. I will tell you, however, my business is at a crossroads of enormous perplexity, humbly asking for a swift resolution to this problem. Flooded with calls from other small manufacturers, I am not alone by emphasizing that we do not have the leisure to wait six to eight months for this crisis to fix itself. And if it does fix itself, what is preventing this from repeating in 2005 and the years to follow?

I know you are well aware that many small manufacturers and people in general in America have lost the majority of their jobs, customers, to China. Non-replaceable sources that have closed their

doors took our profits in search of cheaper labor, no insurance costs, OSHA regulations, et cetera.

Now, China's economy is exploding, with our lost profits and inflating our steel costs to build up their economy. Adding salt to the wound, forcing us to raise our prices to our existing customers, putting them one step closer to considering China as a cheaper source. I hate to say this, but I see a pattern.

In reevaluating the past, the honest thing to do is to first admit there has been a crisis for a long time. And although there may have been some recovery on the horizon, further disruptions such as this will only result in complete desolation of the few of us that are left.

I, for one, cannot bear the thought of 15 years of hard work wiped out, and more so because this problem could not be resolved in a more expedient manner.

I am just a small, simple business owner who can only offer no solutions of my own to this matter. To be quite frank, this is why I am coming to you. All I can do is to confirm what others before me have brought to your attention. There is a definite need for tougher trade policies, making certain from now on other countries understand that trade is going to be fair. And that the manipulation of the currency to the demise of our economy is not acceptable.

Once again, there is an ongoing problem with health care, and itself has been an open sore in need of a long-time healing.

Furthermore, we need tax breaks, especially for the manufacturers that are remaining in America. Sticking it out through this tangled mess, and with little strength that they have left to be the backbone of America, are driven to rebuild the manufacturing sector and provide much-needed jobs. Personally, I don't want more loans, government or otherwise. God knows I struggle to pay the ones I have.

Make no mistake, these are very challenging times for us, and it is taking every ounce of our energy, time, and finances to hang on.

What I am hoping for is there is no more talk, only instead bold and speedy action to relieve this enormous burden so that we can get back to business. Six months or more of battling prices between our vendors and customers has been fatiguing.

In closing, Mr. Chairman, I just want to add this. With my deepest sincerity, I am praying for the leaders of this great country. I am praying that God will give you the wisdom to make the right decisions, which will determine whether my doors will be open or closed within the very near future.

Thank you.

[Ms. Vincer's statement may be found in the appendix.]

Chairman MANZULLO. Charlotte, what are the kinds of springs that you make?

Ms. VINCER. We make compression extension torsion springs and wire forms of all types.

Chairman MANZULLO. And how many employees do you have?

Ms. VINCER. We have five.

Chairman MANZULLO. That qualifies as a small business.

Our next witness is Patrick Loftus. Patrick is testifying on behalf of the High Steel Structures out of Lancaster, Pennsylvania, and

also in conjunction with the American Road and Transportation Builders Association.

Patrick, we look forward to your testimony.

**STATEMENT OF PATRICK P. LOFTUS, HIGH STEEL  
STRUCTURES**

Mr. LOFTUS. Thank you, Mr. Chairman. I appreciate the opportunity to be here.

I actually wear three hats today. One is as President of High Steel Structures, who is a bridge fabricator in Lancaster. We build the superstructure for highway and railway bridges. And we are technically not small; presently we have about 800 employees. But I also am past-Chairman and Executive Committee member of the National Bridge Alliance, and that represents about 120 member firms who are fabricators, and our average size is less than 100 employees per firm.

On the ARTBA side, I am President of the Material and Services Division. ARTBA is a large organization, as you know, with over 5,000 members, representing most of the highway and bridge construction industry. But the M and S Division is smaller participants: people who do rebar, guardrail, small firms. Many WBEs, Women's Business Enterprises, and many DBEs, Disadvantaged Business Enterprises. So we have a broad constituency. And we speak today from a consensus view of the industry.

Steel is the largest component by far in the product that our company makes. And the recent unexpected increase in price has just left us frankly reeling. We are not sure where this takes us.

We won't go through the reasons for the increase, because those have been amply cited. But our prices have increased anywhere from 30 percent to 80 percent over the last year, average this year have gone up about 40 percent in price.

Those of us in the highway and bridge business recognize that price changes are part of life, and we assume considerable risk because we are in a fixed-bid business. So we have to take a project provided to us by the DOTs, evaluate what is involved with it, review the drawings, and submit a fixed price to the general contractor for that work, based on the known conditions and scope of the contract, as defined.

What has happened recently is the prices skyrocketed, and we have no way to compensate for that, because most of the projects on which we are bidding may be eight to 10 months later before we can actually order the steel. We have to do the detailed engineering drawings and submit those, and have them approved by the DOT, before we are even in a position to start to procure the steel. During that time the prices have changed dramatically.

And I will give you two examples specifically of how that impacts us. In my company that I preside over, we presently have about \$126 million worth of backlog, a substantial amount of work on the books, most of which we bid in 2003.

Our cost overruns on the purchase of the steel material for that work would presently be in the neighborhood of \$16 to \$17 million, over and above what was in the bid when we estimated it.

Now, those bids were based on firm commitments from the steel mills, from the steel suppliers. They have simply defaulted on those

and said they will no longer honor them, and therefore we are stuck with that.

If you take it to a slightly smaller scale, some of our member firms—we have a very good WBE supplier that works from Pennsylvania who presently has, within the state of Pennsylvania, about \$10 million in steel backlog that she took under contract in 2003. For her to purchase that steel today will cost her in the neighborhood of \$16 million. So she is going to be in a loss position of \$6 million on her present existing backlog.

By definition, a WBE can only have a net worth of \$750,000. She does not have a strong balance sheet to fall back on. She is not allowed to. So this would bankrupt here, literally. If she were to continue and perform on this work, it would immediately put her out of business, if her lending institutions would allow her to do that.

And that is an immediate crisis that we are facing in the construction industry, is that we have a large number of small suppliers and material installers using steel, whether they are WBEs or DBEs or simply small business, that simply will not be able to honor their contracts, and will be forced to either go into bankruptcy or default. They have no choice.

So it is an immediate and severe crisis. We have had a number of meetings with state DOTs and federal highway, trying to resolve this.

Chairman MANZULLO. Patrick, let me interrupt you. Rebar. Do you want to talk about that?

Mr. LOFTUS. Yes. It has gone up dramatically in price. It is probably a 70- or 80-percent increase. It is the same situation.

Chairman MANZULLO. And its impact on road construction.

Mr. LOFTUS. It is huge. A lot of the rebar is installed by small firms, and a lot of it is installed by DBE firms. If you take a project like the Woodrow Wilson Bridge project, the contractors there have to look very seriously at that. And they would have bid that back in May of 2003. They won't actually be receiving the steel material until this year, at a greatly escalated price. In all likelihood, they will not be able to perform under that contract.

We are in exactly that position with the steel superstructure for Woodrow Wilson. The price has increased about \$6 million beyond what we had anticipated. And we put the contractor on notice that we will not be able to perform that contract.

So what we have asked Federal Highway for, for all of the steel products in the Federal Highway-funded projects, is to look at this as a changed condition. When you bid a project, you have a set of plans and specifications, and you are responsible for the risk involved with that. But if there is a changed condition, something that you could not have foreseen or have anticipated—a soil problem, an environmental problem—that substantially alters the terms of the contract, you have the option to go back and amend that.

So we have asked Federal Highway to put forth an emergency escalation clause as a changed condition, that would allow current contracts that were bid prior to March 1 of this year with material that is received after January of this year, to allow those to be considered a changed condition, and adjust the price for those projects.

Absent that, you will have, this summer, many projects grinding to a halt, with suppliers and steel fabricators simply not able to fulfill the contracts, and the work cannot proceed.

So it is an urgent crisis. You said earlier time is of the essence. It could not be more essential, because the fabrication for this summer's heavy construction work should be going on now to have it ready to install during the summer. Absent some price escalation from Federal Highway, this will not happen. We are going to have projects all over the country shutting down.

Our own company has 45 projects that are at risk today in seven states and the District of Columbia.

Chairman MANZULLO. Road projects.

Mr. LOFTUS. Yes. National major crisis. You can see construction just stopping.

Chairman MANZULLO. If you could, when you get back home, quantify those as best as you can in a letter, on your letterhead, to supplement your testimony? Because I know how fluid what is going on here, the point they are showing that there is a shortage of steel with which to make rebar, therefore impacting the highway construction industry, and therefore not being able to actually do the building itself. If you could put that in a one- or two-page letter and get that to Joe by fax, I want that to be made part of your testimony.

Mr. LOFTUS. I would be happy to do that. We have submitted written testimony, and we do have an economic analysis conducted by Dr. Buchner of ARTBA that is available, and we will submit that, as well.

Chairman MANZULLO. Thank you, Patrick.

Mr. LOFTUS. Thank you.

[Mr. Loftus' statement may be found in the appendix.]

Chairman MANZULLO. Congresswoman Napolitano.

Ms. NAPOLITANO. Thank you, Mr. Chair. And I know I don't have to repeat this, but Chairman Manzullo has been at the forefront of bringing this to the attention of Congress and to this Administration. I think he has done a great job.

I would also like to submit for the record the statement from CIF Stamping that was submitted for the record. I don't know if you have it.

Chairman MANZULLO. It will be made a part of the record, without objection.

Chairman MANZULLO. The testimony of the witnesses, the complete written testimony will be made part of the record.

Anybody wishing to augment the testimony of the hearing, if you could get that in to Joe within the next two weeks. Now, listen very carefully. It cannot exceed two pages, and the type cannot be less than 10-point. There is a reason we do that, okay. And that includes if you want to put a graph on there, only one page. So that limits you to three pages totally. And we will make that part of the record.

Congresswoman Napolitano, we will restart the timer for you.

Ms. NAPOLITANO. I guess CIF Stamping is disqualified, because he has got three and a half pages.

Chairman MANZULLO. Well, all right. Well, four pages, thank you.

Ms. NAPOLITANO. Well, the reason that I asked him to submit is because we did form a manufacturing task force. I advised you of that before. So they are bringing in information from not just themselves, but from others.

But I certainly would want to tell everybody that we know, we feel it, we hear it. And yet, unless this Administration works on the base issues, on the core issues, there is nothing we can do except hold hearings and pass the information on.

I could ask a ton of questions, but we already know. We have heard testimony from other individuals. Chairman Manzullo's task force on manufacturing. We have talked to the individuals. And you are right, ma'am, it goes beyond talking; it is now in the action phase. And that has to do with whether or not this Administration is going to move in protecting the U.S. manufacturer. Because we have lost a lot of it, and we are in danger of going below the danger zone that we may not be able to continue manufacturing our most basic necessities here in the United States, especially for defense.

So I really don't have questions. I hear your pain. I have read a lot of your testimony. I know in my own area the small manufacturers are going out of business. They cannot afford the price. And if they are tied into their price that they are receiving for an order, and they have to pay beyond the price for their metal, they are in deep trouble.

So I understand. I know, I hear a lot of the issues. And I am not sure whether, Ms. Holmes, whether you have any idea. And I know you say this might be a bubble, but how do we deal with it until that bubble bursts?

Ms. HOLMES. You are right, Madame Congresswoman. It is an extremely difficult, difficult situation that everyone is facing.

The answer for our industry, for the mining industry, which provides the products that all of my colleagues' companies and manufacturers must have to exist competitively here in the United States has been facing similar difficult times over the last four to five years, brought about by essentially, as I mentioned in my testimony, a global surplus of commodity metals and base minerals.

And such a surplus that here in the United States, and that, coupled with government policies that have discouraged our maintaining our mining base. Mining itself is almost at that point that you were referring to, the point of no return. And we have got to address that in the long term, as we pointed out in our statement, by going back and looking at the policies that discourage mining, and discourage a stable mining industry that is needed in turn to be able to supply our good customers with the products that they need to remain competitive and remain in business, whether it is a small manufacturer or a large manufacturer.

And we certainly know that it is very, very difficult for small manufacturers especially to operate in these terms of fluctuating, extremely fluctuating price levels for their base products.

But the answer is really a greater supply here in the United States. That is a long-term answer, though.

Ms. NAPOLITANO. And I am hearing, we have done a lot of aluminum can recycling, we have done a lot of other kind of paper, and newspaper, and cardboard. Why have we not begun to focus on metal recycling?

Ms. HOLMES. Others can certainly answer this question much more adequately than can I. But I do know that our companies, copper and brass and nickel and metal, metals of all types, are recycled as much as the law allows.

One of the colleagues, I think you were here when you heard the testimony about some EPA regulations that prevent using materials that could possibly be recycled. And that is certainly something that we have to look at.

But we are recycling as many of the commodities as we possibly can.

Ms. NAPOLITANO. Is it possible, then, that you could submit to this Committee the information on those past policies that we may be able to address, so that we can begin at least to understand where we can have a starting point for that particular area?

Ms. HOLMES. We certainly will. And we will submit those in very short order. Thank you.

Ms. NAPOLITANO. Mr. Chair, there are several other questions, but I would like to defer to my colleagues.

Chairman MANZULLO. Thank you. Congressman Akin?

Mr. AKIN. Thank you, Mr. Chairman. A couple quick questions.

First of all, in the case of the rebar, I used to work for a steel company, and rebar was something we didn't have a whole lot of extra margin in. So if you had a choice of selling a ton of rebar or selling a ton of oil-tempered wire or something, you would get a lot more margin off the other.

Do you think the conditions have made it a lot harder for things like rebar, which are sort of lower-end products? Has it made it particularly tight in terms of supply there?

Mr. LOFTUS. I think it has. You are correct. The bridge steels that are higher in alloy content, and a higher price accordingly, those we are able to get, but at a greatly elevated price. But on some of the lower more commodity grades for guardrail or rebar, the shortages, availability is much more acute.

Mr. AKIN. We used to say the test it had to pass was if you threw it in some water and it sank, it was okay. It was kind of basic stuff you——.

Mr. LOFTUS. It was steel.

Mr. AKIN. Yes, yes. Where the alloy things and all are a lot fancier materials. So you do have that sort of effect that the more expensive products, you can get them. The price is high. But some of them you just literally can't get.

Mr. LOFTUS. That is correct.

Mr. AKIN. Then a question relative to the mining side of things. I have been trying to get at the same thing that the Chairman has been working on. And what are the things that make our industry less competitive in this country? I have had a chance to ask that question to a lot of different people. What are the highest-price—in other words, the reason you shift businesses overseas is because it is cheaper over there. It is quite simple. So what is it that makes us less competitive?

Now, the answer that I have gotten back from most people is the high cost of health care probably hurts us, in terms of being competitive in America, more than taxes or any other policy. Is there

anybody here that would say that health care is not the number one cost-driver?

You made reference, Constance, to some policies relative to mining. Are there federal policies which tend to close down mines more than just the cost of health care? Or are there other things that are major cost factors here?

Ms. HOLMES. Our companies face exactly the same types of cost structures, as far as concerning employee health benefits, et cetera, that any other company in the United States faces. And it is a tremendous, tremendous problem that must be dealt with, both in the short and the long term.

We also have other cost issues related to bonding for the mining that we must do, the bonds that we must obtain and that are much more difficult now to obtain. But we are also facing some real problems in making certain that we have the resources available so that we can maintain current production levels, as well as try to expand those production levels. And that goes back to some of the extremely long times and expensive times that we are experiencing in permitting.

But day-to-day operations, certainly health care costs are a big factor.

Mr. AKIN. So if you had to rate all of those things, you had to pick, if you could fix one of them, what would be the best one to fix?

Ms. HOLMES. Clearly, you have to address all of them in concert.

Mr. AKIN. That is nice. You ought to run for office, you know.

[Laughter.]

Ms. HOLMES. But, in the short term, clearly you are talking about some operating costs, amongst which health care costs are very important. But in the medium to long term, and obviously it affects the short-term capability as well, our companies are putting the issues with permitting as the number one top issue for them.

Mr. AKIN. Is that for iron ore mining?

Ms. HOLMES. It would be for just about all types of metals and minerals mining in the United States, yes.

Mr. AKIN. Permitting. And the government has to give you a permit before you can open a new mine?

Ms. HOLMES. Many of the mines and most of the resources are located on federal lands. And so clearly, the permitting process that you must go through to obtain access to those resources and then go on must be, it is a federal, state, and local government activity, yes.

Iron ore, I will have to supply an answer specific to iron ore for the record.

Mr. AKIN. Okay. You might be encouraged to know at least the House has passed at least four versions of putting a cap on medical punitive damages. We have had a little trouble with the other body, but we have passed it about four times over here. We recognize that is a problem, and we are trying to get at at least part of that situation.

Thank you very much, Mr. Chairman.

Chairman MANZULLO. Congressman Bradley.



Mr. BRADLEY. Thank you very much, Mr. Chairman. I apologize for being late. I had a number of New Hampshire constituents in my office, so they had to come first.

The question I had, and perhaps it was already addressed by the panel, and if so I apologize. But what are the possibilities of United States companies being able to ramp up steel production, in particular? Or have we lost so much of the base of this industry over the last several years due to economic conditions and other things, that it just is unlikely that this industry can be a growth industry in our country?

And if the answer to the question is we could grow again, what are the types of regulatory policy changes that would enhance the ability to produce these basic materials in our country?

Mr. LOFTUS. With all due respect, sir, I think we have got the wrong panel here to answer that question. You really need the steel supplier.

Ironically, in the plate market, which is what we use primarily in bridges, there is adequate capacity to produce steel. But the shortages of both scrap for the mini-mills and coke at the moment for the integrated mills to produce raw steel is lacking. So the capacity is there, but the availability of the raw materials is not adequate at this time.

What the solution to that would be is beyond my area of expertise. Whether there would be changes in the environmental regulations for coke production, for instance, might make a big difference. But I don't feel qualified to answer that.

Chairman MANZULLO. Jim, would you yield?

Mr. BRADLEY. Yes.

Chairman MANZULLO. Wilbur Ross, the President of ISG, when he testified here about three weeks ago, said that his company is ramping up to increase steel production of I think 750,000 tons. Was that per year? So that partially answers the question.

Mr. BRADLEY. Okay, thank you. I have nothing further.

Chairman MANZULLO. Let me ask a question here. We all know the long-term things that have to be done in order to help out the cost of doing business in this country. Those are a luxury at this point.

If you had it within your power to do something within the next 30 to 60 days, one or two things that would dramatically impact your industry, what would it be?

And Ms. Holmes, if you want to—you know, the reason we pick on you is because you are mining, and everything starts with you. So we look to you for the most basic of answers, and can't go very well without you.

Ms. HOLMES. Well, let me see. In the next 30 to 60 days, it is extremely difficult. But I will say that affecting the basic mining industry and our costs, just as will affect all costs here—and it is not quite on the subject of the panel, I understand. But high costs of doing business, of course, affect our profitability.

The thing that can probably help the country the most is to pass an energy bill. I mean, because while everyone is faced with very, very high costs of raw materials, and we are all faced with the vagaries of the world's supply markets and the ups and downs of price levels, at the same time that companies are experiencing

these high metals and raw material costs, we are also experiencing extremely high costs for energy. And anything we can do to bring those down, through passage of a sound energy bill, which I know has been done on the House side and we are still waiting, is an important thing to do, along with all of the other things that my colleagues might suggest.

Chairman MANZULLO. Mr. Cowan?

Mr. COWAN. Well, I know what I would do instantly, because there is no such thing as instantly.

But we are more concerned about jobs that are leaving. I think I heard the same thing from the copper people. I think what happens is that, the little job people supply to bigger customers. Their big customer, without mentioning any automotive name by name, go to every supplier and say you must reduce your costs.

Chairman MANZULLO. Hey, look, General Motors just announced, and I will say it, that they are going to increase by tenfold the amount of outsourcing that they are going to do, requiring their T-1 customers to import stuff from China.

Mr. COWAN. Absolutely.

Chairman MANZULLO. And somebody is going to have to wake up to the fact in this country, that the job is going to be so poor-paying, there won't be anybody left here to buy their cars.

Mr. COWAN. Let me bring a point——.

Chairman MANZULLO. Let me finish, and then I will give you as much time as you want.

When the Japanese come to this country and set up shop, Nissan and Toyota, what we have seen is that they are insisting on buying more and more American materials to put in their automobiles, and the American manufacturers are putting in more and more Chinese stuff. And the Japanese want to do that for several reasons.

Number one, they are thinking long range. They want to make sure that the people are here in this country for the jobs to buy their cars. And second of all, they want to be able to meet the NAFTA requirements of 62-1/2 percent U.S. content.

What we find in Rockford, which I still consider to be the fastener industry, used to be the fastener capital of the world, we have lost so many fastener shops it is incredible. But it is the Japanese automobile manufacturers in this country that are putting to shame many of the U.S. manufacturers by insisting on high quality, faster made, in this country.

We have people contacting us all the time on why are the big three sending us all kinds of directives saying, by the way, what portion of what you supply us is coming from China. And by the way, you can save a lot of money when we put these cost restraints on you by buying the stuff from China. I guess that is a little bit of an editorial, but that goes to explain why the people in my biggest city, Rockford, Illinois, has 11-1/2 percent unemployment.

I guess I will ask you the question all over again, Ed, without the clock on.

Mr. COWAN. You just gave my answer, and that is great. Because what I really see in this thing—and I will use the name GM—the buyer doesn't care if there are some subsidies given by the Chinese

Government on a casting coming over. He just wants to know what your price is. And everything is based on price.

I mean, if they would recognize that a subsidized casting price is not going to be there forever, it is going to go away, but once we lose that job we have lost it forever, maybe people would think a little bit differently.

But I don't know how you identify that number, what it is, how much it is, and what the penalty is. But the pressure is on. The little guy isn't moving his jobs to China; he is moving the jobs to China under pressure from the big guys. Everybody should know that.

Chairman MANZULLO. This is why Congressman English's bill that would reverse the 1974 law in this country to allow countervailing duties against the Chinese, based upon the Chinese subsidizing their industries, is extremely important.

So let me give you your answer. And that would be to enact Phil English's bill that would allow those actions to take place immediately.

Now, who is here from Pennsylvania? Pat, you are here from Pennsylvania.

Mr. COWAN. We have a plant in Pennsylvania, also. Lebanon, Pennsylvania.

Chairman MANZULLO. You are in Lebanon, Pennsylvania. Who is the Member there, do you know?

Mr. COWAN. No, I do not. I live in Cleveland.

Chairman MANZULLO. Okay.

Mr. COWAN. But there is one comment. I mean, I have seen aluminum jobs go to China that, I am pretty good at math, if aluminum is 80 cents a pound and it is a five-pound casting, you have got four dollars worth of aluminum. And you can't sell it for \$4.20.

There is something else going on that somebody has to identify.

Chairman MANZULLO. That is why, if you look at our opening statement, we put the list of the possible recommendations. We are going to be presenting those to the International Trade Administration within the Department of Commerce as soon as this hearing ends. And we will continue those discussions with them.

Mr. Rupp.

Mr. RUPP. Congressman. Short term what we believe needs to happen is exactly what my colleague has just talked about. We believe that the subsidies that are coming from, particularly from China, that the Administration needs to undertake a WTO dispute settlement case against them for illegal subsidies.

We have got the exact same issue going on. And that is what is fueling the scrap that has basically doubled the scrap that is being exported out of this country.

Ultimately it is impact on jobs. My company, for example, shut down a facility in Indianapolis, Indiana last year, where we used to employ 800 people, because of the inability to be able to compete. In our industry that I represent, we have another company that shut down a facility in Paramount, California last year, another company that is just trying to come out of Chapter 11 and trying to survive.

For us in the short term, we believe that some help in stopping the rapid export of our material out of this country, such that we

could—it is copper-based scrap, Congressman, copper-based scrap. We believe some short supply issue could assist us in trying to stop this rapid escalation of material out of here until we can get our feet on the ground.

We also believe that the exchange rate on the yuan is not a short-term solution, but a longer-term solution that would be helpful to us. But the most significant issue we believe is that there are subsidies that are going on that need to be attacked.

What is happening is our material, we can't—if you are Chinese and you want to buy a pound of material, you can get subsidized. I can never match you on price. And so what happens is the material leaves this country, and starts the whole escalating effect. And that is why the price of copper at 70 cents a pound, when it goes to \$1.40 a pound, it is a problem.

I have been in the industry for 30 years. The penny got changed in 1980 because the price of copper was \$1.40. The penny used to be made of 95 percent copper, 5 percent zinc. It is now made out of zinc and copper-plated, because the government couldn't afford to spend that kind of money to make a penny.

So what has happened is we can't stand for the prices to stay up at these levels that they are staying. And what will happen is, as China continues to be subsidized, what will continue to occur is we will lose our customer base, ultimately our business, and ultimately jobs. And it has happened, I mean, in the rod side of our business it has happened dramatically in the screw machine shops right now.

Chairman MANZULLO. John?

Mr. LINDSTEDT. Congressman, in the short term, I think the biggest impact that would help manufacturing is energy costs. And it ties in with the regulatory issue.

Part of the reason we have such high energy costs in this country is, that it take 10 years to permit a power-generating facility. Currently the EPA is looking at more air regulations on the discharges from facilities that are going to raise the cost of our energy. And it ties into, I guess, a longer ethical question.

We live in a society where we have demanded clean air, clean water, wonderful health care, et cetera, et cetera. And then for some reason, we put on moral blinders, and we send this work overseas in the guise of cost.

I invite you to look at the current March, 2004 National Geographic article on China. And if I hear one more time that we have fair trade and they have the same environmental regulations we do, I want to get sick. Look at that article. Look at the costs imposed on the people of China for cost. It is morally wrong, what is happening in this country.

And the only person I have heard speak to it in this current political campaign is Senator Edwards from North Carolina. He made a very strong statement about that, and it really played in the heartland of the U.S. Look at the results of the Wisconsin primary elections.

We have to wake up. We can't speak out of both sides of our mouth. And the price pressures from up above are unbelievable. I mean, it is price, price, price.

Chairman MANZULLO. Charlotte?

Ms. VINCER. I completely agree with John here about trade policies not being too fair.

Yes, we are a small company, and we are pressed upon by our big customers to have price reductions continually. And that is just so tough. It is just so hard on us. And there are so many other companies that are going through the same thing.

Again, health care is a big issue. For my little company, the sad part is we all had to let it go, and let our spouses take us on. We did that years ago. We haven't been able to afford health care since.

Chairman MANZULLO. That means you can't grow.

Ms. VINCER. Thank you. We have had one employee, and laid her off, eight months ago or so. Actually, longer than that. But we couldn't keep her.

Another sad part is my father had to go, who is a partner in the company, and find another job that had better health care.

There is a lot of issues. I don't, again, I am just a small person in this big-potato world, however. And I would just like to say I appreciate everybody at this panel has had very, very good points. And I am thankful that you invited me.

I would just ask that we would please get to a resolution as quick as possible.

Thank you.

Chairman MANZULLO. Patrick?

Mr. LOFTUS. I would have two suggestions in the short term. Both are very specific, and both are very urgent.

The first would be to pass an adequately-funded highway bill. The TNI Committee I know has been working on that, and what we really need is a good, strong six-year bill that will adequately support highway funding out into the future, so the states know what they are going to have to deal with. What we have experienced in the last year is uncertainty on their part as to what will the funding levels be, so they have not let some of the longer-term major projects, and it has severely hurt the industry.

So we need a new bill, and we need it adequately funded, and we need it now.

The second thing is even more specific. I would ask you to encourage Secretary Mineta and Administrator Mary Peters of the Federal Highway to put in and allow and encourage a short-term, limited-duration, emergency escalation clause for existing contracts in steel construction. Absent that, we will see more headlines like this one about steel crisis and bankruptcies.

This week one of the best fabricators in this country, Haven Steel, declared bankruptcy. They could not make their payroll; they sent their people home. That is very unusual. But they were completely out of cash because their lending institutions would not allow them to continue. They were paying more for their steel raw material than they were being paid for it after fabrication.

Now, that is in a building, it is not a bridge. But that same condition is right around the corner. And this is time-sensitive critical that we need escalation on existing contracts, or you are going to see other defaults, other bankruptcies, and construction brought to a screeching halt. And we need that help now.

So we would ask you to please contact Secretary Mineta and Mary Peters, and ask them to adopt this policy.

Chairman MANZULLO. Congresswoman Napolitano.

Ms. NAPOLITANO. Thank you, Mr. Chair. And again, I just can't tell you how important that is to my area.

I was interested in the dialogue over sludge, over the possibility of utilizing the minerals that, what was it you indicated was not being recouped?

Mr. LINDSTEDT. Yes, ma'am. In my industry we deposit metal on other metals, and there is some of that metal in an aqueous solution in our rinse stream which we extract from our processes, under the requirements of the Clean Water Act.

The metals are many in that stream. The most common ones are copper, nickel, chromium, tin, and zinc. And under the existing hazardous waste requirements in the country, they are defined, they are listed as a hazardous waste. Whether they chemically are or not. And that was based on a set of prerequisites that the USEPA looked at back in 1980. And the data that they were looking at was data that was gathered from our industry, most of it pre-1950, when it was a very different world.

So they decided that that product was a listed hazardous waste. Someone decided it is hazardous. And we are now required to take this product, encapsulate it in concrete, and bury it in the ground. This product, most metals in there are somewhere between 3 to 6 percent by weight, on a dry-weight basis.

Now, if you were in the mining industry and I said I had a mine that had 3-percent copper by weight, they would be rushing to that site to take it. And every day we throw it away. Thousands and thousands of pounds.

We have been working with the agency for over 10 years to show to them that over 50 percent of the product that comes out of my industry is not a hazard by their chemical definition. In other words, if we laid it on the table here, there is nothing in that product, if it didn't come from my industry, that would make it a hazardous waste. But they have defined it that way.

And we have been encouraging them to look at that, change the definition, and allow the hazard listing to leave. If the hazard listing leaves, we can send it to multiple facilities within the United States that are currently not permitted to handle a hazardous waste, and they can recycle it.

We are desperately trying to get them to recycle that material. I mean, often the public thinks that we do a wonderful job of recycling in this country, and honestly, we do a pitifully poor job. It kind of makes you feel good when you recycle a milk carton. But when we throw away millions of dollars of metals that would have some impact, it is rather disappointing.

And the process takes so long. If they passed that law today, it would take another four or five years, under the current regulatory regime, to make that effective, where we could actually change it. And we talked about permitting. It is absolutely bizarre. It makes no sense. Why 10 years to permit a power plant? Why five years, when we are crying about metal prices, and we are encapsulating in concrete, and we put it in the ground, must we wait another five years to get at it?

I don't know. I mean, it is a strange set of circumstances driven by a lot of agendas on the environmental side. And we are not talking to take a hazardous waste and use it; we are talking about a non-hazardous product that we desperately need.

Ms. NAPOLITANO. Thank you, Mr. Chair. I think maybe we need to start asking some questions of some of our agencies as to why this has not happened, why they have not re-reviewed how they determine it is hazardous. What data are they using. And to maybe force the issue and have them bring them up to date.

Chairman MANZULLO. We appreciate that. You know, it is obvious what is going on here, is that over a period of time, with respect to the mining industry, there has been a decrease in demand based upon cheap foreign products coming on the market.

Decreased demand means that the mining operations have decreased proportionately, and that when the increased demand comes along, because some of the mines have shut down or some have scaled back, then for them to gear up it takes a tremendous amount of time for that to take place.

Having all these hearings on manufacturing, we have been doing it because somebody has to focus on this industry. This is a thousand-piece puzzle, the whole issue of the restoration or maintenance of manufacturing in this country.

Connie, when mining increases, that is a lot for Caterpillar. We have a \$101 million Caterpillar presence in our Congressional District, in the Speaker's district, just below us, and obviously Ray LaHood's district. And so one fuels the other, and those are tremendous, high-paying jobs.

And in the midst of all of this, we have all these regulations that are so disjointed.

The good news is that Dr. John Graham, who is the head of the Office of Regulatory Information, within the Office of Management and Budget, put out a press release just about a month ago, whereby his office is undertaking a study of every regulation that applies to manufacturing. It is a mammoth study. And Dr. Graham is a good guy. Really devoted, he has got a great mind, the ability to analyze a lot of things going on at any given time. And his job there, and his goal—and he did this on his own, of course along with the President's push on it—is to try to harmonize the numerous regulations that impact businesses, oftentimes not only with multiple permits, but different requirements. If you satisfy one agency, you break the regulations of another agency.

You have been tremendous witnesses. You spoke from your hearts. Your recommendations, along with the recommendations that we have set forth in our opening statement, as I said before, not only are they up for the press that it is here, and a lot of industry press is here who are very much interested in this; but also within the International Trade Administration of the Department of Commerce itself.

We want to thank you for coming here, and this hearing is adjourned.

[Whereupon, at 11:02 a.m., the Committee was adjourned.]

**Congress of the United States**  
**House of Representatives**  
 108th Congress  
**Committee on Small Business**  
 2301 Rayburn House Office Building  
 Washington, DC 20515-6515  
**Statement of Chairman Donald Manzullo**  
**House Committee on Small Business**  
**Hearing—The Spike in Metals Prices—Part II**  
 March 25, 2004

Good Morning and thank you all for being here today as we examine further the recent spike in metals prices and its effects on small manufacturers. This is the 57<sup>th</sup> hearing this committee has had on American manufacturing issues since 2001. I would especially like to thank several of our witnesses who have traveled great distances to be here with us today.

Earlier this month, the Committee held its first hearing on this issue by emphasizing the plight of manufacturers struggling with the sudden and unexpected surge in steel pricing. Unfortunately, this phenomenon is not limited to steel alone.

Other metalworkers, such as those in the copper, nickel, and aluminum industries are also facing historically high rates for the raw materials they need to fill orders, keep their shops open, provide jobs, grow our economy, and feed their families.

For example, the price of copper soared to an eight-year high of nearly \$3,000 a metric ton at the end of February. The price of nickel has more than doubled in the last year. Since September of 2003, the price of aluminum has gone up an average of 15 cents per pound. As I stated in our last hearing, these manufacturers are stuck between purchasing the raw materials they need at these inflated prices and filling orders they have already set prices for contractually. While some shops have been able to pass these increases along to their customers, many cannot and it's threatening their very livelihoods.

The charts we have up here, as well as attached to my statement that can be picked up over at our press table, document some of the global factors attributing to these spikes. Chart Number 1 shows that while steel scrap imports into the United States have remained relatively stable over the past four years, steel scrap exports have nearly doubled.

Chart Number 2 shows the correlation between U.S. steel imports, which have steadily declined over the past six years, and exports which again, have remained relatively stable.

Chart Number 3 shows the five countries that import the largest amount of U.S. scrap steel. China has become the number one recipient of U.S. steel scrap—receiving 3.5 million net short tons of scrap in 2003.

Similarly, Chart 4 shows China's insatiable need for steel and the raw materials to produce steel. In 1996, Chinese production and consumption of steel were about equal. In 1999, China started consuming more steel than it could produce, and that need has grown exponentially in the past five years.

The thought then becomes "What can we do about it?" There is no easy fix for this because we are dealing with a wide variety of market forces and global issues acting in unison causing these increases. That said, there are several steps that we, as a Nation, can take to ensure we are doing all we can to make certain American manufacturers are on a level playing field with their counterparts abroad.

First, the Administration should vigorously oppose foreign government manipulation of currencies at America's expense and it should not resist U.S. industry's effort to proceed with a Section 301 case against China



for pegging its currency to the U.S. dollar.

We must also energetically fight foreign state subsidization of local industries. In this regard, Congress should pass Congressman English's bill, H.R. 3716, to allow U.S. petitioners to file countervailing duty trade cases against non-market economies to combat unfair state subsidization of industries in countries like China. The Administration should investigate potentially unfair duties or subsidies that provides an incentive for products beings currently produced in the U.S. to be moved to China. Simply put, we must accurately determine these export subsidies.

Finally, in another move to combat state subsidization, the Administration should undertake a World Trade Organization dispute settlement case against China on illegal subsidies, through its banking system, to the Chinese metals industries.

Another issue to be better understood is the effect the current and existing anti-dumping and countervailing duty orders placed on foreign imports of steel into the United States. The Administration should engage in a full-scale review of the duties to see if they still have merit in light of the tightened markets in the United States.

There are some metal products made in China, labeled as US origin, and then exported and sold in other countries in markets that US metal fabricators have traditionally supplied. The USTR should vigorously prosecute such actions by calling upon these third nations to stop the import of such goods from China and also call upon China to crack down on such producers who mislabel their exports.

At our March 10<sup>th</sup> hearing, several witnesses stated the need for export controls of American scrap. I believe the Administration should immediately begin the process to review whether or not imposing export controls on all scrap metal prices is a sound policy goal. If the Administration does not support imposing export controls, it must come up with a battle plan on how they will negotiate with other countries such as Russia, the Ukraine, Venezuela, and China to remove their export restrictions on scrap metal and coking coal products. Included in the possible list of U.S. trade remedies is initiating a "hiatus" in the WTO accession process for Russia and the Ukraine until these problems are resolved.

Additionally, the long awaited energy bill, H.R. 6, has been stalled for months. Enacting this legislation will help bring down energy costs for manufacturers through promoting more environmentally-sound energy development in the U.S. and enhancing conservation efforts, thus decreasing our dependence upon volatile foreign sources of oil and gas.

We also must garner a comprehensive review of the situation. The Administration, through the Department of Commerce or the U.S. International Trade Commission (USITC) in a Section 332 action, should investigate the reported shortages in scrap and steel coking coal to determine the effects they have had on production problems and on the overall competitiveness of U.S. industry.

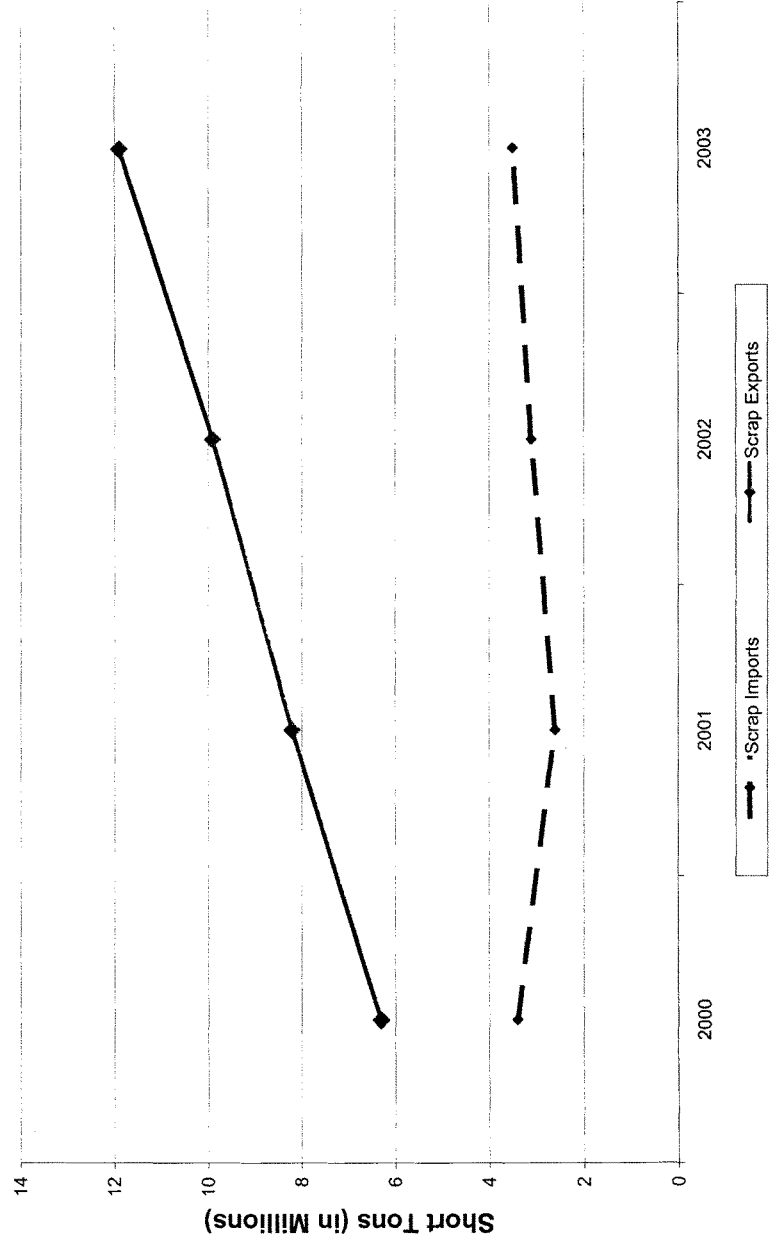
Similarly, the Department of Defense and the Bureau of Industry and Security at the Department of Commerce need to examine whether the reported shortages in steel and other metals will have an adverse affect on our nation's national security and determine whether or not the U.S. government needs to enact the Defense Production Act to restrict the flow of certain critical metals or raw materials from the United States.

Folks, time is of the essence and we must begin taking action to bring the metals markets back into balance. Our manufacturers are holding on to the thinnest of threads and they need our help to remain the thriving backbone of our economy. I am certain that given the opportunity, they can and will recover what has been lost, but they can't do it themselves. Our government must pave the way.

Today we have with us a variety of folks who work with steel, copper, nickel, and aluminum and I look forward to their testimony. I now yield for the opening statement from the ranking minority Member, Representative Velázquez of New York.

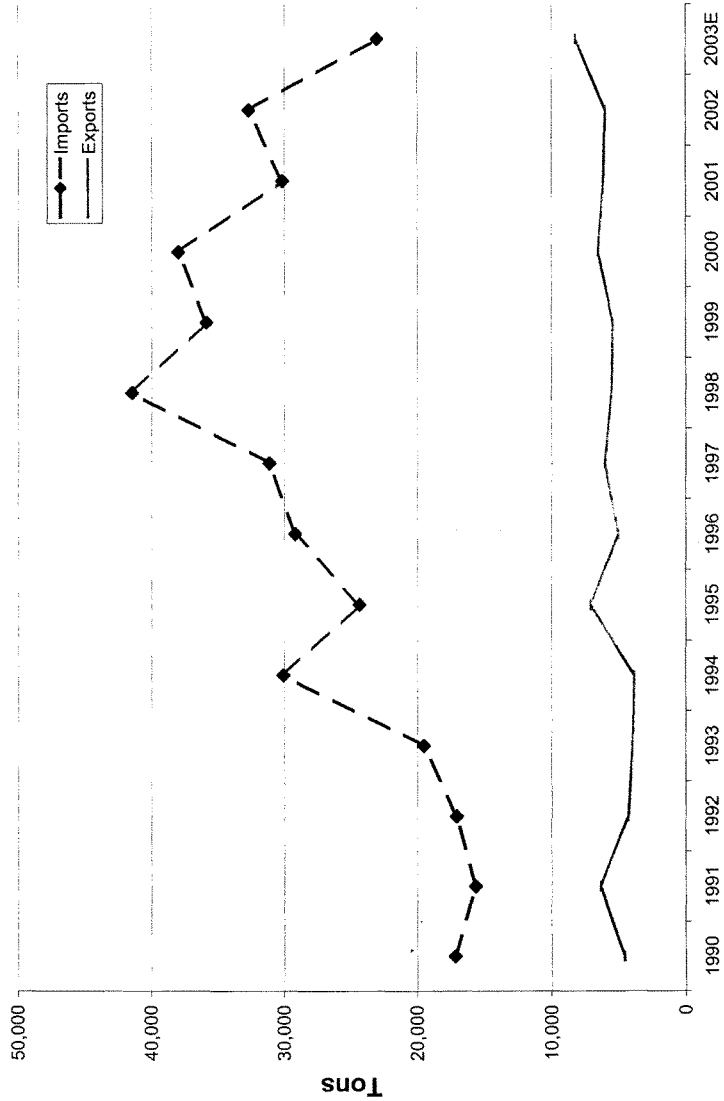
#1

# US Steel Scrap Exports and Imports

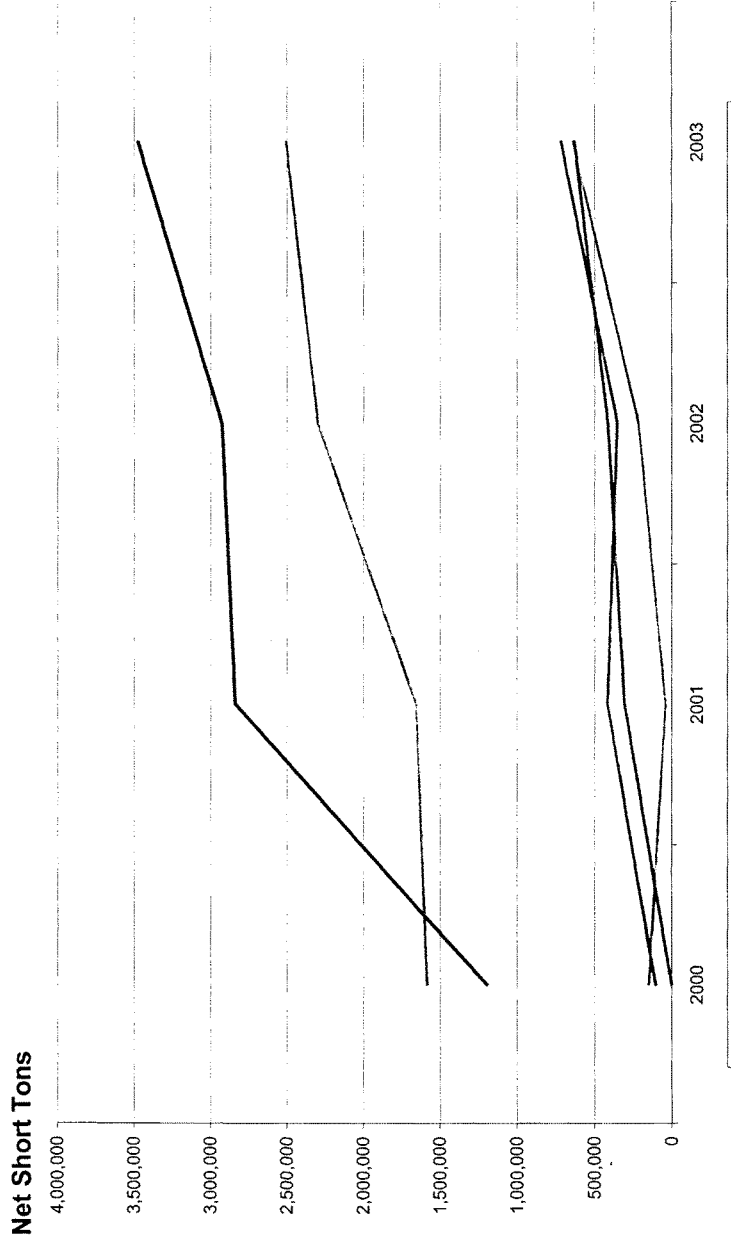


#2

### US Steel Exports vs. Imports

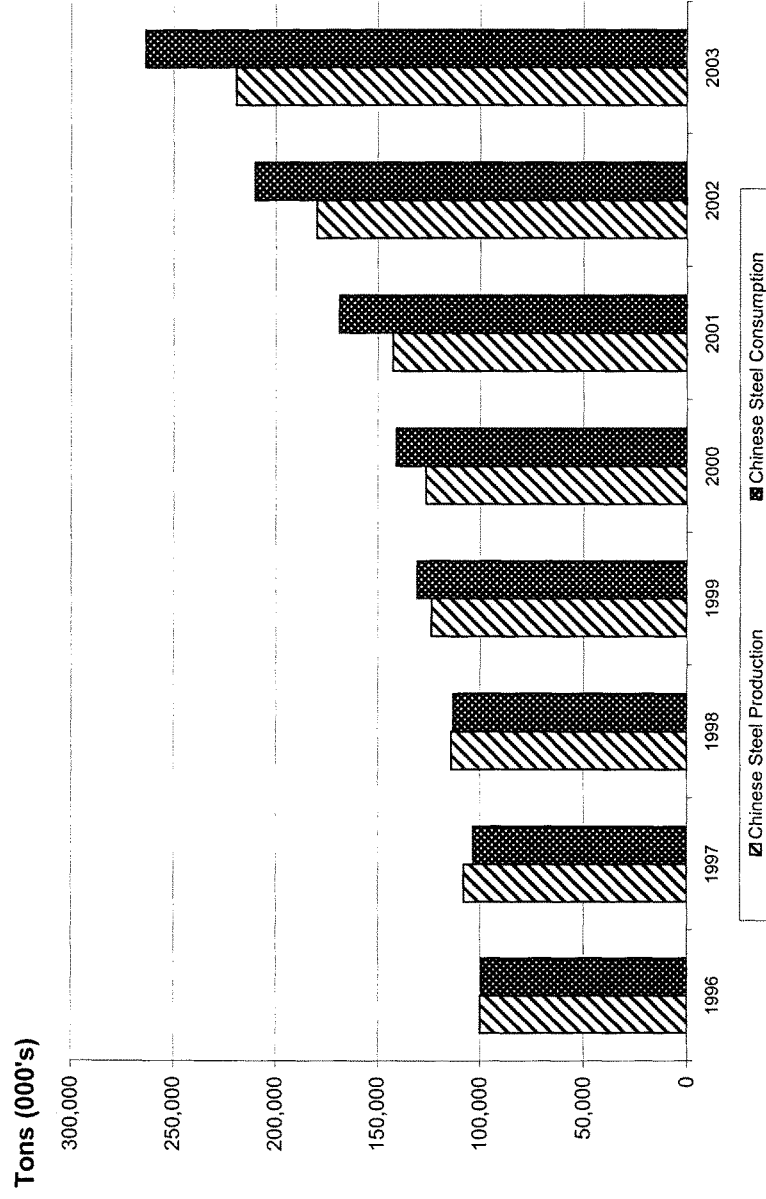


### #3 US Domestic Exports of Steel Scrap



# #4

## Chinese Steel Statistics



**The Need for A National Minerals Policy**  
**To Increase Domestic Supplies of Metals and Minerals**

Connie Holmes, Sr. Economist  
National Mining Association  
Presented to the  
Committee on Small Business  
U.S. House of Representatives  
Hearing on  
Spike in Metal Prices – Part II  
March 25, 2004

Mr. Chairman, my name is Connie Holmes and I am Senior Economist and Director of International Policy at the National Mining Association (NMA). Thank you for asking us to appear before the Committee today. We would like to commend your leadership, Mr. Chairman, for holding this series of hearings on factors that affect the ability of manufacturers, and especially small manufacturers, to compete effectively. The manufacturing industry is vital to the economy of our nation. At the same time, the economic and operational viability of the industry that we represent, the mining industry is essential to the future of our manufacturing base. It is important that United States manufacturers have access to metals and raw materials that are available on a local – or domestic - basis to protect them from the uncertainties brought about by dependence on imports and the vagaries of world market supplies. Mining and manufacturing must work hand in hand now and into the future both to maintain our nation's economic strength and to assure national security.

The National Mining Association represents the vast majority of America's major producers of metals, minerals and coal produced in the United States. NMA's membership also includes the manufacturers of processing equipment, machinery and supplies, transporters, and engineering, consulting, and financial institutions serving the mining industry.

Let me preface my statement by stating that all information that is included herein, including all production and price information, is obtained from publicly available sources including government sources, press releases and other news reports, material published by various investment houses and information published on commodities exchange web sites. A complete list of sources used is appended to this statement. It is

also important to point out that NMA does not forecast or estimate future prices of the commodities that our members produce and sell. Therefore, all information used is historical and in the public record.

### **Summary**

Mr. Chairman, you have asked NMA to discuss the reasons prices for raw materials, including base metals, have risen to current levels from the low prices that have been the norm for the past several years. Unlike many other marketplace commodities, prices for metals are set not set through negotiations between buyer and seller. Rather base prices are set in the global market through the London Metal Exchange (LME) and other transparent commodity markets. As such, metal producers do not set prices but rather are price takers, equally affected by both the lows and the highs set by that market. Neither the supplier nor the user has the stability that would come from long term contractual relationships.

In the past year the global market for raw materials and metals has moved from a supply surplus to a supply deficit – or a surplus of demand. Over the past several months strong global economic growth, led by phenomenal growth in China, has increased demand for all metals, raw materials and energy. However, over the past several years investment in mining and related infrastructure has been limited globally and, in particular, in the United States. Globally, investment in mining has been restricted in part due to low commodity price levels and thus low (or negative) rates of return to the potential investor. However, in the United States there is another major factor. Much of the reason that production of metals and minerals has declined sharply in the US can be traced to the fact that government policies have actively discouraged – and sometimes prevented – exploration for and development of our nation's great natural resource base. As pointed out in a recent study by Canada's Fraser Institute many areas in the US are ranked as the least attractive places for mining investment. A major factor is the difficult, expensive and extraordinarily lengthy time frames associated with applying for and obtaining necessary permits to explore, develop and operate mining related facilities.

In the past few years lack of investment in domestic mining has not been a significant issue as demand could always be satisfied with existing warehouse stocks or increases in imports. However, more recently as global demand has improved, most metal markets have moved into a deficit, where global demand growth has exceeded supply growth. As a result, the global price (as quoted on the LME and other exchanges) has increased and US manufacturers end up paying more for their raw materials. In the US, a market that is in deficit now in many metals and raw materials markets, imports are increasingly needed to satisfy local demand. The situation is made even more difficult for US manufacturers by a weak dollar which results in lower purchasing power for a US manufacturer that is importing dollar denominated raw materials from offshore.

To assure that US manufacturers do not face a shortage of metals and other raw materials over the longer term, the U.S. needs to develop and implement a national minerals policy that allows access to resources for development and assures that the resource can be developed in a timely, but socially and environmentally responsible manner. We need policies that turn the United States from the "least attractive" location for investment to the "most attractive" location. In the short term, while there will be an increase in metals and raw materials production brought about by current higher commodity price levels, should global demand continue at the current rate, supply deficits could persist with the resultant pressures that we have seen on the price structure for basic minerals commodities and energy.

**At present, demand for metals and raw materials is greater than supply although a year ago, supply exceeded demand.**

In a reversal of the situation of the recent past, global demand for all metals and raw materials is currently greater than global supply. We are faced with a confluence of events. Economic recovery is occurring on a global basis, and the outlook is for strong economic growth in many countries, and especially in many developing countries led by China. The strength of demand, brought about by a synchronized increase in manufacturing and construction activity was while anticipated a year ago was certainly not expected to be as strong and as fast, as evidenced by statements made by the CEO's of publicly traded companies outlining production plans for 2003. Even as



recently as six months ago the metals and minerals industry was in a period of surplus – supply exceeded demand by a fairly wide margin. And, as reported by various issues of Platt's Metals Week, forecasts were for steady to lower demand for metals and minerals in 2003.

Reacting to a surplus in supply, planned (and actual) production levels of metals and raw materials in 2003 were, by and large, the same or slightly lower than in 2002 reflecting lower demand growth expectations. In fact, world production of metals and raw materials has not increased appreciably over the last five years as price levels, reacting to a surplus, have been low enough to discourage investment in exploration and development activities that must precede an increase in metals and minerals production.

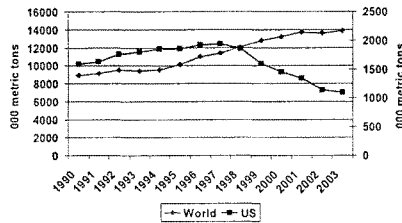
The current supply situation has certainly been exacerbated by operational problems at some mines around the globe and these problems are being addressed. But, overall, the global mining industry does not have the short term capability of increasing at a fast enough pace to meet this sudden increase in global demand. The results is a drawdown of inventories and rising prices not only for metals and for raw materials, but for the products made from these materials. This drawdown in inventories has been significant enough in some metals to create spot shortages. Over time, higher prices for metals and raw materials will most likely attract the investments that are required to increase production capacity. However, global expansion cannot occur immediately, and in the United States, it is problematic that large scale expansion could occur without a comprehensive national minerals policy to provide the certainty needed for domestic mining development.

#### **The example of copper**

Trends in US production of metals and minerals can be illustrated by the experience of the copper industry –an industry that you specifically asked us to address. As shown in chart below, global copper production increased significantly from 1990 to 2001 leveling off at the 13.7-13.9 million metric tons level produced in each of the past three years. Since 1997, approximately the time when supply began to exceed demand, production of copper at mines in the US has declined. In 2003 copper production at US mines totaled only 1.1 million metric tons, nearly 45% below peak production in 1997

(USGS). The relative stagnation in the rate of growth of world copper production in 2001-03 reflected the leveling of demand for refined copper at approximately 15.0 million

World Copper Production (Mine) vs US: 1990-2003



Source: USGS Minerals Commodity Summaries, Minerals Yearbook

metric tons (IDCA). Global demand did not begin to pick up until mid 2003. During the same period (since 2000) the world was in a surplus situation as clearly illustrated by the fact that LME inventories increased from approximately 398,000 metric tons at the beginning of 2000 to 857,000 metric tons at the beginning of 2003. At the end of

June last year, LME inventories remained high at 685,000 metric tons. They are now at lows not seen for some time at approximately 225,000 metric tons. This drawdown reflects how significantly supply has exceeded demand how quickly a global surplus changed to a global deficit.

Price levels for copper as quoted on the LME were depressed for several years by the conditions of surplus and have increased as that surplus changed to deficit. What difference does that make? As pointed out earlier, the prices set for metal purchased by domestic manufacturers is not set in the US, it is set through a global market as reflected by the LME and other transparent commodity exchanges. According to Crabbe (2000), "The exchange does not dictate prices traded. These are determined by market forces, such as excess buying and selling pressuring prices higher or lower. The LME is an independent pricing mechanism and reference point for the metals traded (p 18)." Crabbe also points out "The LME official prices are widely used in metal contracts around the world as a basis of price" (p 20).

Most metal producers are not price setters but rather are price takers. The low price levels of the last 5 years have caused private and publicly held producers in market economies such as the US to reduce the number of mines in operation and, thus, production capacity. As pointed out, mine production of copper in the United States has declined by nearly 45% from the peak levels of 1997. Employment in the US metallic

mining industry has declined by 42% since 1997. While consumption through 2003 declined, imports of refined copper have gone up by approximately 36% and in 2003 the US was dependent on imports for 38% of the copper used in the nation (in 1997 that figure was only 12%).

These trends are not dissimilar to those found in the US mining industry as a whole. This situation can only be addressed by a change in public policy to encourage development of the vast natural resource base our nation is fortunate to have in the ground, a resources that we are precluded from developing but a resource that is required to maintain the competitiveness of our manufacturing base.

**A National Minerals Policy is Needed to Maintain and Increase Mining of Domestic Resources.**

There has been a good deal of discussion in the past year about the importance of maintaining the manufacturing base in the United States. Manufacturing, however, needs a reliable source of raw materials to produce the products that we are all dependent upon not only in our everyday lives, but most importantly to maintain the security of the nation – both economic security and security from a defense point of view. The future of our manufacturing industry, and the important jobs it supports, can not be allowed to depend upon imports of metals and raw materials from overseas suppliers, some of questionable reliability. A strong domestic manufacturing industry is best supported by a strong domestic mining industry.

Unfortunately, current trends in domestic minerals production point alarmingly toward a continued decline in mining and an increase in imports. To illustrate:

- The number of metallic mineral operations has declined by 66% since 1990 (dropping from 488 locations in 1990 to 272 in 1997 to 182 in 2002 according to data published by the Mine Health and Safety Administration - MSHA);
- Employment in the metals mining industry has declined by 47% since 1990 with most of the decline since 1997. The metallic mining industry now employs just over 14,600 persons;

## 40

- Exploration investment in new mineral resources is declining. US exploration spending in 2002 was 34% of 1997 levels;
- The US share of exploration spending is declining from 10% of the world's total in 2000 to 7.2% in 2002 and early indications show that the percentage of exploration dollars was even lower in 2003; and,
- In yet another disturbing trend, the number of new claims filed to mine on Federal Lands has declined by 73% since 1997.

Decline in US production, and in plans for future development are, of course affected by economics – both the demand for the product and the expectation for a fair and positive rate of return. But development plans are more affected by the investment climate that is shaped by public policy.

The latest annual survey by Canada's Fraser Institute ranked many areas in the United States as the least attractive to investors in the mining industry. The survey, which considers a number of criteria important in attracting investment in the mining, concluded that public policy, not geology, is increasingly the decisive factor for the lack of new U.S. investment. On this basis, Fraser concluded that Chile is the most attractive location for mining related investments. Many US company respondents indicated that they are slowing pulling out of the United States. The Fraser Institute's findings were supported by a similar study conducted by Behre Dolbear whose president recently stated that "the time, expense and uncertainty [in developing a mining project in the US] cause investors to eschew financing US projects since the system unduly delays a return on investment." (Cooper, March 3, 2004).

The US has many advantages including a stable government, lack of corruption, a strong economy and a strong market, a talented workforce, a technologically advanced and environmentally aware mining industry and, importantly, a strong reserve base for most major metals and minerals. But the US also has disadvantages including an uncertain policy environment, a complex regulatory structure, and very long permitting delays that are excessive and expensive.

A well designed National Minerals Policy can reverse this situation. Taken in its totality it must provide regulatory certainty for making investment decisions and also

provide a level playing field for US operators to make our country an attractive place to do business. Many elements must be included but, aside from allowing access to federal lands where most mineral resources are located, the most important issue that must be address is the issue of permitting. Currently a medium to large operation can expect to spend at least 4, but possibly as many as 10 or more, years from application for the first permits for a project to the time that mining (and a return on investment) actually begins. In contrast, the permitting time for a mine in Chile is approximately one year to 18 months. No company board of directors, faced with limited financial resources, would approve expenditure of funds for a domestic project when the first returns are possibly 10 years out, if at all, versus an overseas project that will begin to make a return within one or two years.

At the bottom line, if there is no investment in resource exploration and development, there will be no expansion of the United States capacity to mine metals and minerals and indeed, the US mining industry will not be able to maintain current production levels. This can only result in an increase in imports of our most strategic materials, a trend that is already occurring, but a trend that should be reversed. If we do not take the necessary steps to allow mining in the US to continue and to expand, not only will supplies of metals and raw materials be questionable, our domestic manufacturers may be subject to price increases and fluctuations that are more difficult to address than those prevailing today. It is a matter of economic security and it is a matter of national security.

We look forward to working with you to develop the national mineral policy necessary for the long term health of U.S. manufacturers. I would be pleased to answer your questions, Mr. Chairman.

References:

- Cooper, Donald, K., President, Behre Dolbear. Statement before the House Committee on Resources, Subcommittee on Energy and Mineral Resources, March 3, 2004
- Copper Supply and Consumption 1982-2002*. Annual Data published by the Copper Development Association (2003).
- Copper Production and Usage Trends*. International Copper Development Association. [www.icsg.org](http://www.icsg.org)
- Fraser Institute. The Fraser Institute Annual Survey of Mining Companies 2003/2004. January, 2004. Available from [www.fraserinstitute.com](http://www.fraserinstitute.com)
- Metals Trading Handbook*. Crabbe, P. (2000). London: Woodhead Publishing Ltd.
- Metals Statistics 2001, the Statistical Guide to North American Metals* (93<sup>rd</sup> ed). New York: American Metals Market (2002).
- Minerals Yearbook 1990, 1995, 2002. US Geological Survey. Available from [www.usgs.gov](http://www.usgs.gov)
- Mineral Commodity Summaries, Various Years. US Geological Survey. Available from [www.usgs.gov](http://www.usgs.gov)
- Platts Metals Week, Various issues, 2002,2003, 2004 published by McGraw-Hill Companies, Inc.

Disclosure requirement: Neither myself, nor the National Mining Association have received or participated in federal grants, contracts or subcontracts covered by the disclosure requirements of the House Rules Committee.

Comments to the Committee on Small Business Concerning Recent  
Aluminum Price Increases

By Edward Cowan  
VP- Manufacturing  
Beck Aluminum Corp.

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Thursday, March 24, 2004

**Curriculum Vitae**

Edward Cowan is a thirty year veteran of the Aluminum Industry. After Graduating from Case Western Reserve University in 1971, Mr. Cowan began his career as scrap buyer at Aluminum Smelting and Refining, an alloy manufacturer. He rapidly advanced in his field to attain the position of VP of Raw Material purchasing at Dohler Jarvis, a major US casting house. In 1986 Mr. Cowan took the position of President and COO, as managing partner, of Roth Brothers Smelting Corp. Mr. Cowan presently serves as the VP of Manufacturing of Beck Aluminum Corp.

Mr. Cowan has become recognized as an international authority in the Secondary Aluminum Industry and has sat on the boards of directors of several National trade organizations. Mr. Cowan has spoken and written extensively on the Secondary Aluminum, in both National and International forms, and presently authors a monthly article in the Journal Aluminum Industry Insight.

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Neither Ed Cowan, Beck Aluminum, nor its affiliates have received any federal grant, contract, or subcontract, in this or any of the preceding two years.

Comments to the Committee on Small Business Concerning Recent Aluminum Price Increase  
Edward Cowan  
Beck Aluminum Corp.  
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I am here today representing Beck Aluminum, a company with two small manufacturing facilities in Ohio and Pennsylvania and a sales and marketing group with a total of about 100 employees. We are a typical model for a secondary/scrap based group where raw materials account for about 80% of our product cost. Secondary metal refers to material produced from scrap while primary metal is produced from ore and is basically new metal. Our customers are mainly casters, with the majority of these casters affiliated with the transportation industry. The cost of their raw material represents somewhere between 50%-75% of their products selling costs, depending on the size and complexity of parts produced.

I have been in the secondary aluminum business for over 30 years, at both casting producers and alloy producers. I am here today to address the recent price increases in aluminum and to give our opinion as to what has caused these price hikes and what affect this has had our company and our customers.

I would like to start with some price history. The base alloy in the casting industry is called A-380. The price this month for A-380 is about 86 cents per pound. In March 2003 this price was about 74 cents and March 2002 the price was about 64 cents. The prices for 99.7% pure primary for the same period were as follows: March 2004 – 82 cents, March 2003 – 70 cents, and March 2002 – 64 cents. Even though A-380 production is almost entirely scrap based and 99.7 is produced from ore, the prices do trend in the same direction and the price volatility of each item does have a relationship to the other.

Many are currently blaming the metals price spikes on the Chinese purchasing scrap from the U.S. I do believe this is partially true but it does not address the major point concerning aluminum scrap in the U.S. The current U.S. "desired" scrap for secondary ingot and mill products is about 9.75 billion pounds per year. Of this 9.75 billion, about 5.25 billion is required by secondary producers and 4.5 billion by mill products ( sheet, plate, extrusions) consumers. The secondary alloy producers are getting and using their 5.25 billion but mill product consumers are getting only 3 billion of their 4.5 billion desired and have been forced to substitute scrap requirements with primary metal. The reason the secondary producers have been able to get the scrap they require is that they have "invaded" the mill scrap market to make up for the low grade scrap they had traditionally counted on that has been exported, most notably to China. We see a 1.5 billion pound shortfall of scrap required in the U.S.



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The question becomes, if the U.S. has a scrap shortage, how can the Chinese afford to pay enough to attract scrap from the U.S. ? There are obviously numerous reasons, but the most glaring is the Chinese duty on imported primary metal. This duty currently stands at 5% and in recent history has been as high as 9%. This duty was probably to encourage and protect Chinese primary producers who do suffer from high manufacturing costs, particularly in alumina, the basic raw material for production of primary aluminum. This means that the cost of primary aluminum in China is artificially high and allows Chinese consumers to substitute scrap in some applications at higher prices that can be afforded by other world consumers, most notably the U.S. Along with this subsidized price we had seen a weak dollar, low container freight rates back to China and cheap metal sorting costs in China.

In the last few months I have visited several scrap dealers in the metropolitan Boston area that supply scrap to our plant in Lebanon, Pa. At every location I visited, both large and small, I saw an overseas container being loaded with miscellaneous aluminum, copper, nickel, and stainless scrap. Most of the material being loaded needed extensive sorting or processing to be turned into useful product. One of the companies I had visited had just returned from China and showed me numerous photos of warehouses full of contaminated metals being hand sorted by Chinese women. I was told that these women were being paid equivalent to \$25 to \$75 U.S. funds per month. I am not sure of the accuracy of these figures, but if true, we could not afford to compete with this even in a fair market. It should also be noted that the scrap dealers were being paid cash on documents even before the containers left port. I certainly cannot criticize a scrap dealer for selling a normally low value scrap item at high prices for cash in advance. It is everyone's goal to buy low and sell high.

In January 2004, China imported about 41,500 MTS of aluminum scrap. This was almost 35% less than the comparable period last year. This may seem like a good sign, but I would attribute this more to "the cupboards were bare" than lack of interest. In fact one thing did happen in January that should make competing with Chinese buyers even more difficult. There had been a 1.5% duty on imported scrap to China. This duty was removed in January 2004. However since the duty on primary aluminum remains in place, scrap substitution becomes even more attractive with the additional spread available.

Previously I had mentioned a 1.5 billion pound shortfall in desired scrap for U.S. consumers. Coincidentally, the Chinese imported about 650,000 MTS of scrap in 2003. This 650,000 MTS is just over 1.4 billion pounds. About 45% of this 1.4 billion pounds came from the U.S. which represents a significant portion of our scrap shortfall.

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I have been in the aluminum business for over 30 years. I have seen secondary A-380 prices in the 30 cent range to over \$1.00. Most of these major price fluctuations were caused by shortfalls in primary availability caused either by unexpected demand, restricted energy availability or new planned production facilities not on line in a timely fashion. With this in mind, it would be presumptuous to blame high aluminum prices on scrap exports. With London Metal Exchange stocks at historically high levels there certainly must be other factors involved.

Small companies like ours always have an issue with high raw material costs when they represent such a large segment of our cost of sales. Most of us run on fixed dollar amounts of working capital and do not have the ability to increase these lines based on increased raw material costs. If a company like Beck Aluminum sells 30 million pounds of aluminum per month and we need to finance 45 days of sales, higher raw material costs could actually force us to shrink our business. Financing 45 days of sales at 65 cents ties up almost \$30 million. Financing 45 days of sales at 85 cents is over \$38 million. If we can't finance this, we will shrink.

A more disturbing factor that I have seen is not the short term effects of higher pricing, but the obvious push by the Chinese to move our customers and even our competitors to China. At this point the loss becomes permanent. The major automotive producers continually threaten our casting customers to lower prices (or they say costs) or the production of parts will be moved to China. Since we already know that raw material costs represent a significant portion of casting costs and aluminum prices are not low in China, how could they make cheaper castings? Obviously labor is one factor but a more significant factor is Chinese subsidies to manufacturers who export. I do not know the exact amount of these subsidies, but they do exist and must be high enough to overcome high aluminum and extra transportation costs. Some of these threats have already come true. We are aware of wheel manufacturers, automotive casters, and hand tool producers who have had jobs moved to China. Some of these are small companies that were forced to close.

I am also aware of the Chinese having major U.S. secondary alloy producers visit China to convince them to build significant aluminum recycling facilities in China. The U.S. is home to the largest recycling facilities in the world and exporting this knowledge along with cheap labor and less stringent environmental standards would help reduce their actual raw material costs.

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One of the requests of this committee was to offer potential solutions. Obviously we would all like to be playing on a level field. Subsidies for products being exported to the U.S. is no different than dumping. Import duties on products or commodities being shipped to China to protect domestic Chinese producers can be helpful to those producers but certainly harm potential overseas competitors.

I have seen price spikes in my 30+ years in the aluminum business. I have seen these spikes in both directions. I would urge we be most concerned about potentially unfair duties or subsidies that would cause parts or products being currently produced in the U.S. to be moved to China. As much as I am personally against duties, perhaps if we can accurately determine the export subsidies, a matching duty could be instituted before we lose any more work to artificially low prices.

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US exports and Chinese Imports			
Year	US Aluminum Scrap Exports(MT)	Chinese Aluminum Scrap Imports(MT)	US as % of Chinese
2001	120,716	326,890	36.9%
2002	188,874	466,986	40.4%
2003	294,186	642,193	45.8%

North American Scrap Needs

	Shipments	Scrap %	Metals Scrap	Desired	Metals Scrap	Scrap
Mill Products	16,000	17%	2,700	3,000	25%	4,000 4,500
Secondary Products	5,000	84%	4,200	5,250	84%	4,200 5,250
		33%	6,900	8,250	39%	8,200 9,750

Note: Estimated in thousands of pounds

US Aluminum Pricing		
Date	Mid-West 99.7 US Transaction Price (USD/Lb)	Mid-West A380 Price (USD/Lb)
Sep-01	0.6531	0.6084
Oct-01	0.6254	0.6017
Nov-01	0.6423	0.5994
Dec-01	0.6447	0.6072
Jan-02	0.6542	0.6178
Feb-02	0.6503	0.6428
Mar-02	0.6709	0.7234
Apr-02	0.667	0.7706
May-02	0.658	0.7497
Jun-02	0.662	0.7306
Jul-02	0.6536	0.7186
Aug-02	0.6292	0.7039
Sep-02	0.631	0.6869
Oct-02	0.6369	0.6803
Nov-02	0.6652	0.6971
Dec-02	0.6661	0.7072
Jan-03	0.6707	0.7117
Feb-03	0.6945	0.7347
Mar-03	0.6783	0.7289
Apr-03	0.6508	0.7028
May-03	0.673	0.6808
Jun-03	0.6673	0.6694
Jul-03	0.6758	0.6583
Aug-03	0.6817	0.6706
Sep-03	0.6744	0.6828
Oct-03	0.7077	0.7033
Nov-03	0.7232	0.7275
Dec-03	0.7446	0.7475
Jan-04	0.7727	0.7775
Feb-04	0.8206	0.8197



**JOSEPH D. RUPP**  
*President and Chief Executive Officer*  
*Olin Corporation*

The Board of Directors of Olin Corporation on October 25, 2001 elected Joseph D. Rupp Chief Executive Officer, President and a member of the Board of Directors of Olin, effective January 1, 2002. Mr. Rupp joined Olin's Brass Division in 1972 after graduating from the University of Missouri - Rolla with a BS degree in Metallurgy. After holding a number of positions of increasing responsibility in the Brass manufacturing and engineering organization, in 1985 he was appointed Vice President Manufacturing and Engineering for Olin Brass. He was named President of Olin Brass and a Corporate Vice President in 1996 and, in March 2001, he was elected Executive Vice President, Operations with responsibility for Olin's three operating Divisions. Mr. Rupp is based at Olin Corporation's headquarters in Norwalk, CT.

Mr. Rupp is also currently the Chairman of the Board of Directors of the Copper & Brass Fabricators Council, Inc. and a member of the Board of Directors of the Copper Development Association.

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BEFORE THE  
SMALL BUSINESS COMMITTEE  
U.S. HOUSE OF REPRESENTATIVES

TESTIMONY

OF

JOSEPH D. RUPP

OLIN CORPORATION  
NORWALK, CONNECTICUT

ON BEHALF OF THE  
COPPER & BRASS FABRICATORS COUNCIL, INC.

March 25, 2004  
Washington, D.C.

U.S. House of Representatives  
Before the Committee on Small Business  
Hearing on Spike in Metal Prices – Part II  
(March 25, 2004)

Good morning. I am Joseph D. Rupp, President and Chief Executive Officer of Olin Corporation and current Chairman of the Board of Directors of the Copper & Brass Fabricators Council, Inc. ("Council"). I appear before you today in both of these capacities. As indicated by the list at Attachment 1, the Council currently has twenty members.

The Council's companies collectively account for between 80 percent and 85 percent of total U.S. production of all copper and copper-alloy brass-mill products, including plate, sheet, strip, foil, rod, bar, pipe, and tube. Attachment 2 describes the properties of the wrought coppers and copper alloys that we produce as a group and the wide range of important uses to which our semi-fabricated products are put. By way of illustration, our products are used in the production of electrical connectors for automobiles and computers, ammunition components, marine hardware, forgings and machined parts of all kinds, tubes for piping systems, bushings, bearings, gears, building hardware, copper plumbing tube and fittings, plumbing, heating, air-conditioning and refrigeration components, aircraft parts, valve bodies and components, rivets and bolts, heat exchanger and power utility condenser tubing, communications systems, welding rod, optical goods, keys and locks, and lead frames for semiconductor devices. It is reasonable, therefore, to say that copper and copper-alloy brass-mill products are essential work horses in the day-to-day maintenance of the U.S. economy and national defense.

As far as the Council's members are concerned, this hearing could not be more timely. Copper scrap and copper-alloy scrap along with copper cathode are the most critical raw materials for the Council's companies. We need very large volumes of these materials at stable prices on a continuous and on-going basis. You can imagine, therefore, our tremendous concern with the turn of events during the last half year or so especially.

For example, between October 2003 and March 2004, the average cost of free-cutting brass scrap has jumped approximately 49 percent, from \$0.665 per pound to \$0.9950 per pound. An increase to this extent over such a short period of time is unprecedented. Similarly, Attachment 3 contains a table that summarizes the pricing trends from 1998 forward to earlier this month for No. 1 copper scrap and No. 2 copper scrap as compared with the Comex price of copper cathode. As the data compiled in Attachment 3 show, prices for all three of these raw materials rose sharply beginning in mid-2003 after years of fairly stable prices. Thus, whereas No. 1 copper scrap was \$0.7386 per pound in July 2003, by March 4, 2004, that price had risen by nearly 75 percent to \$1.29 per pound. The increase during this same timeframe was over 81 percent for No. 2 copper scrap (from \$0.65 per pound to \$1.18 per pound) and almost 69 percent for copper cathode (from \$0.7806 per pound to \$1.3175 per pound).

These rapidly increasing prices are explained by the scarcity of copper scrap and copper-alloy scrap as well as of copper cathode. Attachment 4 contains two tables in this regard. The first recapitulates the volumes of copper scrap and copper-alloy scrap that have been exported

from the United States annually starting with 1996 and going through 2003. The second focuses on the shorter period of 1999 through 2003 and highlights U.S. copper-based scrap supply and consumption, year-end stocks, and exports as a percentage of total U.S. supply and consumption. These tables describe how U.S. exports of copper-based scrap have grown from 397,407 metric tons in 1996 to 753,542 metric tons in 2003 and from 16.2 percent of U.S. supply and 19.4 percent of U.S. consumption in 1999 to 39.4 percent of U.S. supply and 65.0 percent of U.S. consumption, respectively, in 2003. Clearly, there is a huge shift that has been occurring. Importantly, as more and more copper-based scrap has been leaving the United States, the U.S. demand for -- and price of -- copper cathode have grown. Cathode pricing as a result of the shortages has seen "premiums" over Comex rise to levels not previously experienced. There already have been some spot shortages of copper-based scrap, and it appears quite possible that U.S. stocks of copper cathode could be depleted by this summer. With reference to free-cutting brass scrap, as an example, it is typical for U.S. mills to have approximately one week's supply on hand to support melting operations. There is no futures market for this raw material, only spot contracts, thereby creating even greater pressure on securing a steady and reliable source of input material. Interruptions and shortages of supplies are extremely costly. The limited availability of copper-based scrap has an adverse effect on productivity and raises production costs.

It would be difficult to over-emphasize how devastating the high prices and shortages of copper scrap and copper-alloy scrap have already been and might be in the foreseeable future to the Council's member companies and to our downstream customers in the United States. Copper-based scrap and copper cathode typically are fungible commodities for which there normally are world-wide prices as a result. The only real differential in pricing for these raw materials should be the costs to transport them. Abnormal influences in the marketplace, however, have been severely disruptive. When the data presented in the attachments are analyzed, the picture that emerges is that most of the pressure on the global system is stemming from China.

China seems to have an insatiable demand for copper scrap, copper-alloy scrap, and copper cathode that it cannot satisfy from its indigenous reserves. This intensity is seen in the high prices and immediate payment in cash offered by Chinese agents to U.S. scrap dealers. The Council's members cannot compete on these terms, not because we are not efficient, but because the Chinese firms have unfair advantages that we do not have. I am referring to the Chinese government's serious undervaluation of the yuan versus the U.S. dollar, which is estimated at anywhere from 10 percent to 40 percent or more, due to the fixed exchange rate of 8.28 yuan to the U.S. dollar, the suspected refund to Chinese importers of copper-based scrap of most of the value-added tax when downstream products made from that scrap are subsequently exported from China, and, lastly, other reported subsidies. It is also possible that imports of copper-based scrap into China are not being properly classified and valued and are consequently not paying full import duties and other taxes.

These difficulties are exacerbated by the massive trade deficit that the United States has with China. Thus, for instance, the large volume of Chinese goods entering the United States by ship means that those vessels have considerable return capacity, which would otherwise go unused, to take copper-based scrap back to China. Our reports are that the cost to transport this



scrap from the West Coast of the United States to China amounts to no more than 2 cents per pound. In contrast, transportation costs from the West Coast to the mid-west are from 3.5 cents per pound to 4 cents per pound. The differential of 1.5 cents per pound to 2 cents per pound might not at first glance appear large, but it is in fact. For brass rod producers, metal costs typically comprise between 70 percent and 80 percent of our prices to customers. The remainder of the selling price (or the spread over metal) consists of fabrication costs, SG&A, shipping, and any profit. The differential between the reduced shipping costs to China and the greater shipping costs in the United States actually constitutes between fifteen percent and twenty percent of that spread.

One other aspect of this situation should be emphasized. The escalating costs and threats to input material availability cascade down the supply chain and affect the lives of workers in many companies. Some of our customers have told us that imports from China of downstream copper and copper-alloy products are at prices that are equal to or less than the material cost of the same products when produced in the United States. This situation becomes more pronounced as the imported downstream products from China become larger and heavier and yield less scrap. This is having an extremely negative impact on our U.S. customers as well as on the Council's members. Again, in the area of free-cutting brass rod, screw-machine companies in the industrial states such as Illinois, Michigan, Ohio, Pennsylvania, and Indiana and in many other states across the country are left without customers for their end-use products. These small businesses are usually second- or third-generation, family-owned companies that have annual gross sales of \$5 million to \$20 million and employ between 20 and 150 people. The parts for faucets, valves, and industrial components that these companies produce from the free-machining brass rod cannot compete with the low-priced parts imported from China, and sales of U.S. parts are lost. This trend is certainly not a positive influence on the long-term economic health and viability of this country.

With respect to other products such as copper tube, reports of counterfeiting have arisen. These products are manufactured in China, labeled as being of U.S. origin, and then sold in third-country export markets that our members traditionally have supplied. It is especially aggravating that this business is being lost at a time when the lower value of the U.S. dollar should be making our products more attractive to our export customers.

In conclusion, we are grateful for the Committee's attention to these difficult circumstances. The damage being done to our industry is extensive and might soon be irreparable. In the last year, one mill has shut down, and another mill recently emerged from a bankruptcy/liquidation proceeding. China's influence in this area is far-reaching. The ever-growing exports of copper scrap and copper-alloy scrap from the United States will not diminish anytime in the near term without U.S. government intervention. It is very frustrating that so much copper-based scrap is being exported and is unavailable to us at just the time when the U.S. economy has been showing some improvement. Steps need to be taken to address the root causes underlying these exports, notably the unfair advantages enjoyed by China's firms that I mentioned earlier. On behalf of the Council's member companies, thank you, Congressman Manzullo, for this opportunity to appear before you today.

Attachments

**TESTIMONY  
House Small Business Committee  
March 25, 2004**

**John Lindstedt  
President, Artistic Plating Company  
Milwaukee, Wisconsin**

**On Behalf of  
National Association of Metal Finishers  
American Electroplaters and Surface Finishers Society  
Metal Finishing Suppliers Association**

Good morning, Mr. Chairman and members of the committee. I am John Lindstedt, President of Artistic Plating Company. We are an electroplating "job shop" located in Milwaukee, Wisconsin, and have 48 employees. My father started the company in 1948, and for over 50 years we have provided gold, silver, nickel, tin and copper finishes for a range of industries, including power distribution, automotive, defense, medical, plumbing, and a host of others.

I am testifying today on behalf of the National Association of Metal Finishers (NAMF), the American Electroplaters and Surface Finishers Society (AESF) and the Metal Finishing Suppliers Association (MFSA). Together, these trade associations represent the management, technical/professional and supplier communities in the metal finishing industry.

Like numerous other industries, metal finishing plays a significant value-added role in the manufacturing supply chain. Virtually all metal products in commerce require the service of my industry. Whether in the form of a simple light-oil film to a complex series of metal coatings, metal finishing is vital to the needs of the nation.

We make most of the things Americans come into contact with every day work better, look better and last longer. The metal finishing industry's role in corrosion protection alone in the U.S. provides about a \$200 billion annual economic benefit.

My company's experience on the metals shortage issue reflects the very serious challenges faced by the larger metal finishing industry and related sectors. I'll put it simply – at this point, the impact of intense price pressure on metals is the most troubling hurdle we face, even in the context of the long list of other excess overhead and cost factors that are dramatically diminishing our ability to compete.

In comparison with the other major cost increases I have faced over the past three years, and there have been many – health insurance for my employees, general liability and workers comp, energy, and regulatory costs and fees – NONE have risen as dramatically as the cost of my nickel materials or plating solutions.

In fact, the price of nickel for my company has increased by over 300 percent from 2002 through March 2004. This is so even in light of several cost containment strategies we've pursued, including the formation of a holding company with several other metal finishing firms in the Milwaukee area to share administrative services and to make bulk commodity purchases for everything from metals to paper products. This organization purchases directly from Inco and Falconbridge approximately 300,000 pounds of nickel per year, and therefore we have one of the lowest prices in the region for nickel.

The price increases we have experienced would be a lesser challenge if my material needs for nickel and other metals (e.g., copper and silver) were relatively low. Yet NO other single overhead cost I've mentioned constitutes as large a cost to the firm as metal materials, so the impact of price increases for nickel is magnified in every job I quote for a customer.

I have several examples of correspondence I would like to submit for the record showing my metals suppliers imposing a surcharge on my purchase of the nickel-containing products that I use in my plating processes. The surcharges and price increases in light of the current manufacturing dynamics cannot be passed on. My firm has been unable to raise prices since 1997. If I did, I would lose the job in an instant to another U.S.-based finisher, or an Asian competitor whose costing structure I cannot

compete with. Price increases equate to rapid job losses at my company and those of my peers (industry employment loss numbers expected to be out soon may indicate as many as 70,000 lost jobs in our relatively small sector).

As a consequence, my firm is caught in a very destructive and rather agonizing dynamic. In this “cost-price squeeze” I face many production costs that are beyond my control and continue to rise, while at the same time the price of my service continues to be forced down. To remain viable, I have reduced staffing levels (layoffs of 40 percent) ceased any unnecessary purchasing and not purchased or installed any new capital equipment in over four years.

This is unsustainable in the long term, and its no surprise that my company has not made a profit in three years. Gross sales at Artistic Plating are 37 percent below 2000 levels. This is typical of the metal finishing industry during this period.

When I discuss the phenomenon of metals pricing challenges with scrap suppliers, they inform me that the short supply of nickel on the global front is occurring for two reasons. First, the shrinking American manufacturing base is not generating enough scrap to feed our own domestic metal needs. Second, the exploding manufacturing appetite of China and its neighbors for metals.

Among the other recommendations we might discuss today on this panel, I'd like to leave you with at least one specific recommendation to the metal finishing industry that the committee might consider to address the troubling ramifications of current metals supply and pricing trends. And that recommendation emerges from our regulatory system – under our current regulatory framework for managing the nation's industrial waste, we are literally throwing metals away.

I have spent nearly a decade under two Administrations with my top colleagues from industry and leading decision makers at USEPA to study the metals byproducts that we in metal finishing generate from treating metals in our effluent under the Clean Water Act. We treat our process wastewater, but under existing federal hazardous waste regulations (the Resource Conservation and Recovery Act), we are largely required to ship the majority of our metals-laden wastewater treatment sludge to expensive, hazardous waste landfills.

After reviewing this issue with USEPA, we determined several years ago in an extensive waste benchmarking study that greater than 50 percent of all metal treatment sludges are chemically non-hazardous by USEPA definition, but continue to be a listed hazardous waste based on a set of restrictions that were developed 25 years ago. The average metal finishing facility “throws away” an estimated \$40,000 to \$50,000 annually in metals,

based on current pricing trends. The typical regulatory cost to meet just these specific waste regulatory requirements is significant, at approximately 6.5 percent of gross sales per facility. Two of the primary metals involved, among others, are nickel and chromium, both strategic materials for defense and for which the U.S. has no reserves.

USEPA has been working on a rule to address this issue for several years now, and we are informed we may see a proposed rule package by the end of this year. This is a modest, yet promising effort on the larger challenges we face on the metals front. It's only disappointing that it has taken this long to substantiate and reconfirm the policy rationale for modernizing this set of regulations.

At this point, if all goes well, it may take another four to five years before this initiative may begin to provide some specific value to industry. I would like to recommend this change for the Committee to consider along with other options on the trade policy front.

Thank you, Mr. Chairman and the Committee for the opportunity to appear before you today.

## F006: Compositional Characterization A Generation After Listing

By John S. Lindstedt

The Clean Water Act (CWA) of 1972 arguably has had more impact on the metal finishing industry than any other single piece of federal or state legislation since the inception of the industry. This act required the removal of materials used in the finishing process that were not captured on work product and exit the process in wastewater. This resultant generation of wastewater treatment sludges led in 1980 to their becoming a listed (defined) hazardous waste under the Resource Conservation and Recovery Act of 1980 (RCRA) with a waste code F006. The basis of this determination was set forth in a background document for RCRA in November 1980.<sup>1</sup> Final pretreatment regulations requiring concentration based limits on regulated pollutants (primarily metals and cyanide) were promulgated in July, 1986 (40CFR§§413 and 433).

The conclusion of this 1980 listing determination, while valid from the data set evaluated and management practices of that time, has come under an ever increasing criticism from industry. The compositional characteristics of wastewater treatment sludges and their handling procedures have evolved for the better over the last 20 years in response to a variety of environmental regulations. In addition, the industry has responded with technology developments that have eliminated toxins from metal finishing chemistries. Waste from a finishing operation is *different* today than a generation earlier. **There clearly was a need to evaluate the current chemical composition of wastewater treatment sludges and to evaluate that change in relation to the current regulatory framework.**

The task of conducting a scientifically correct compositional characterization study of F006 is a difficult and

imposing task for an industry as diverse as the surface finishing industry. A myriad of processing performed on a multitude of basis metals which is entwined in all phases of an industrial economy insure a complex waste product. To help solve this problem, the industry requested

the assistance of the U.S. Environmental Protection Agency (EPA).<sup>2,3</sup> The agency responded and initiated the compositional evaluation of present wastewater treatment sludges within its Common Sense Initiative. In late 1996, the work began.

**Table 1**  
**National Metal Finishing Performance Goals (By Year 2002)**

- (1) Improved Resource Utilization ("Smarter")
  - (a) 98% of metals ultimately utilized on product.
  - (b) 50% reduction in water purchased/used (from 1992 levels).
  - (c) 25% reduction in facility-wide energy use (from 1992 levels).
- (2) Reduction in Hazardous Emissions and Exposures ("Cleaner")
  - (a) 90% reduction in organic TRI emissions and 50% reduction in metals emissions to air and water (from 1992 levels).
  - (b) 50% reduction in land disposal of hazardous sludge and a reduction in sludge generation (from 1992 levels).
  - (c) Reduction in human exposure to toxic material in the facility and the surrounding community, clearly demonstrated by action selected and taken by the facility. Such actions may include, for example, pollution prevention, use of state-of-art emission controls and protective equipment, use of best recognized industrial hygiene practices, worker training in environmental hazards, or participation in the Local Emergency Planning Committees.
- (3) Increased Economic Payback and Decreased Costs ("Cheaper")
  - (a) Long-term economic benefit to facilities achieving Goals 1 and 2.
  - (b) 50% reduction in costs of unnecessary permitting, reporting, monitoring, and related activities (from 1992 levels), to be implemented through burden reduction programs to the extent that such efforts do not adversely impact environmental outcomes.
- (4) Industry-wide Achievement of Facility Goals.
  - (a) 80% of facilities nationwide achieve Goals 1-3.
- (5) Industry-wide Compliance with Environmental Performance Requirements.
  - (a) All operating facilities achieve compliance with Federal, State and local environmental performance requirements.
  - (b) All metal finishers wishing to cease operations have access to a government sponsored "exit strategy" for environmentally responsible site transition.
  - (c) All enforcement activities involving metal finishing facilities are conducted in a consistent manner to achieve a level playing field, with a primary focus on those facilities that knowingly disregard environmental requirements.

*Note: At facilities where outstanding performance levels were reached prior to 1992, the percentage-reduction targets for Goals 1(b) and (c), and 2(a) and (b) may not be fully achievable, or the effort to achieve them may not be the best use of available resources. In these instances, a target should be adjusted as necessary to make it both meaningful and achievable.*



### Background

In 1994, the Administrator of the U.S. EPA, Carol Browner, launched the Common Sense Initiative (CSI), describing it as a "fundamentally different system" to explore industry-specific strategies for environmental protection. The program is designed to promote "cleaner, cheaper and smarter" environmental performance, using a non-adversarial, stakeholder consensus process to test innovative ideas and approaches. Six industry sectors were selected to participate in CSI:

- Petroleum Refining
- Auto Manufacturing
- Iron & Steel
- Metal Finishing
- Printing
- Computers & Electronics

Metal finishing was one of two small business sectors represented.

In January 1995, the Environmental Protection Agency chartered the Metal Finishing Sector Subcommittee of the Common Sense Initiative under the Federal Advisory Committee Act. The Metal Finishing Subcommittee includes representatives of EPA Headquarters and Regional offices, the metal finishing industry and its suppliers, state government, publicly owned treatment works (POTWs), national and regional environmental organizations, the environmental justice community and organized labor.

The CSI Metal Finishing Sector was challenged by Administrator Carol Browner to develop a consensus package of "cleaner, cheaper and smarter" policy actions for the industry as a whole, based on the lessons learned from the Sector's projects and dialogue. Based on this challenge, the Subcommittee established a workgroup to develop a strategic policy and program framework for the industry.

The Metal Finishing Strategic Goals Program, designed by this multi-stakeholder group, is a major product of this effort. It establishes a set of voluntary National Performance Goals for the industry that represent "better than compliance" environmental performance for metal finishers. The Metal Finishing Goals Program, summarized in Table 1, includes facility-based numerical performance

**Table 2**  
Maximum Concentration of Contaminants  
For the Toxicity Characteristic

EPA No.	Contaminant	Cas No.	Regulatory Level, ppm
D004	Arsenic	7440-38-2	5.0
D005	Barium	7440-39-3	100.00
D018	Benzene	71-43-2	0.5
D006	Cadmium	7440-43-9	1.0
D019	Carbon Tetrachloride	56-23-5	0.5
D020	Chlordane	57-74-9	0.03
D021	Chlorobenzene	108-90-7	100.0
D022	Chloroform	67-66-3	6.0
D007	Chromium	7440-47-3	5.0
D023	o-Cresol	95-48-7	200.0
D024	m-Cresol	108-39-4	200.0
D025	p-Cresol	108-44-6	200.0
D026	Cresol	—	200.0
D016	2,4-D	94-75-7	10.0
D027	1,4-Dichlorobenzene	106-46-7	7.5
D028	1,2-Dichlorobenzene	107-06-2	0.5
D029	1,1-Dichlorobenzene	75-35-4	0.7
D030	2,4-Dinitrotoluene	121-14-2	0.13
D012	Endrin	72-20-8	0.02
D031	Heptachlor (& its epoxide)	76-44-8	0.008
D032	Hexachlorobenzene	118-74-1	0.13
D033	Hexachlorobenzene	87-68-3	0.5
D034	Hexachlorobenzene	67-72-1	3.00
D008	Lead	7439-92-1	5.0
D013	Lindane	58-89-9	0.4
D009	Mercury	7439-97-6	0.2
D014	Methoxychlor	72-43-5	10.0
D035	Methyl ethyl ketone	78-93-3	200.0
D036	Nitrobenzene	98-95-3	2.0
D037	Pentachlorophenol	87-86-5	100.0
D038	Pyridine	110-86-1	5.0
D010	Selenium	7782-49-2	1.0
D011	Silver	7440-22-4	5.0
D039	Tetrachloroethylene	127-18-4	0.7
D015	Toxaphene	8001-35-2	0.5
D040	Trichloroethylene	79-01-6	0.5
D041	2,4,5 Trichlorophenol	95-95-4	400.0
D042	2,4,6 Trichlorophenol	88-06-2	2.0
D017	2,4,5TP (Silvex)	93-72-1	1.0
D043	Vinyl chloride	75-01-4	0.2

targets that track the CSI themes of cleaner, cheaper and smarter performance. The first goal of 98-percent metals utilization is attainable only if metals within the industry's wastewater treatment sludges are returned to use (utilized). The F006 evaluation, therefore, is critical for setting the basis upon which to reuse the metals that are currently designated to a waste stream.

#### Background: Hazardous Waste Determination of F006

The U.S. EPA has established two approaches for determining whether a specific waste is hazardous. A waste

can be hazardous because it contains a certain hazardous component (i.e., cadmium or cyanide) or exhibits a certain hazardous physical trait (low flashpoint). A waste can also be deemed hazardous simply because it is generated from a process that generally produces hazardous wastes. It does not matter if this waste is tested and determined to be non-hazardous. If the waste is generated from a "listed" process, then it is hazardous. The wastes from these two approaches are defined as "characteristically" hazardous and "listed" hazardous, respectively. Waste that is generated from wastewater treatment

of electroplating operations is listed "F006".<sup>4,5</sup>

To classify a waste as characteristically hazardous, forty-five (45) parameters/physical traits are evaluated. These parameters are:

- High/Low pH
- Low Flashpoint
- High Reactive Cyanide Content
- High Reactive Sulfide Content
- High Phenol Content
- High Leachability of Certain Parameters (40 listed parameters as tested by The Toxic Characteristic Leaching Procedure (TCLP)—see Table 2

Of these 45 analyses, 39 are not applicable to F006 waste because those parameters are typically not present in an electroplating shop. The remaining six of the 45 parameters are: pH, Reactive Cyanide, TCLP Chromium, TCLP Cadmium, TCLP Lead, and TCLP trichloroethylene.

The U.S. EPA "listed" wastewater treatment sludges from electroplating operations as a hazardous waste based on four key factors.<sup>6</sup> The Agency's conclusions were:

1. "Wastewater treatment sludges from the listed electroplating operations contain significant concentrations of the toxic metals chromium, cadmium and nickel and toxic complex cyanides."
2. "Leaching tests using the extraction procedure specified in the Extraction Procedure Toxicity Characteristic (EP) have shown that these metals leach out in significant concentrations, with some samples failing the extraction procedure toxicity characteristic. Therefore, the possibility of groundwater contamination via leaching will exist if these waste materials are improperly disposed."
3. "A large quantity of this waste is generated annually with amounts expected to increase substantially when the pretreatment standards for these sources become effective."
4. "Damage incidents (i.e., contaminated wells, destruction of animal life, etc.) that are attributable to the improper disposal of electroplating wastes have been reported, thus indicating that the wastes may be

mismanaged in actual practice, and are capable of causing substantial harm if mismanagement occurs."

In addition, there was significant concern over the use of and incomplete treatment of hexavalent chromium plating processes:<sup>7</sup>

*"Those electroplating processes using chromium all employ the hexavalent form of their element. Consequently, the raw wastes resulting from this process contain chromium only in the hexavalent form. The efficiency of the removal of hexavalent chromium depends on the extent of its reduction. If reduction is incomplete, or if neutralization and metal precipitation take place too rapidly, hexavalent chromium is likely to be entrained in the precipitation sludges, resulting in their contamination with hexavalent chromium."*

The ASTM distilled water leaching test and leaching tests run by the American Electroplaters Society (AES) under an EPA grant demonstrated unsatisfactory levels of leached toxins from electroplating sludges, thereby confirming EP results.

Prior to the issuance of RCRA hazardous waste regulations in 1980, there were no federal requirements for management of metal finishing sludges. Disposal practices were diverse and insecure. They included landfilling, lagooning, drying beds and drum burial. These sites frequently lacked leachate and runoff control practices, which increased the risk of percolation of heavy metals and other toxins onto soils, ground and surface waters. Numerous damage incidents attributable to improper electroplating waste disposal were reported. Mismanagement was actual, not perceived. The long-term persistence of heavy metal in the environment increased the potential for risk.

The promulgation of effluent guidelines in 1986 significantly increased the quantities of wastewater treatment sludge generated above pre-1980 levels. In 1993, estimates of the annual amount of F006 generated in the U.S. ranged from 900,000 tons/wet weight to 1,252,072 tons/wet weight.<sup>8</sup> Most of this material is in the physical form of a metal hydroxide sludge. This waste stream is subject to

the full set of RCRA hazardous waste regulations (e.g., manifesting, training, emergency response plans).

#### Reason for Conducting F006 Study

The metal finishing industry believed that many metal finishers have significantly changed the way they operate since 1980, and that the chemical makeup of F006 is more amenable to recycling than it was in 1980. The strengthening of wastewater pretreatment, hazardous waste management and hazardous waste minimization requirements since 1980 have had a positive impact on materials used, process operations and waste management practices in the industry. These improvements have reduced the pollutants contained in F006. The metal finishing industry has responded to the strengthening of wastewater and hazardous waste regulations with improvements in alternative plating chemistries, production management practices, equipment and waste management technology. For example, the installation of countercurrent flow, spray rinsing and dragout reduction methods are examples of techniques that reduce wastewater volumes and the amount of metals and other chemicals used. Metal finishing companies have installed pollution prevention methods that are targeted at further reducing or eliminating the use of specific toxic materials. Some of the more notable efforts have been:

- Substitution of traditional cyanide-based plating solutions (e.g., zinc and copper plating) with alkaline or acid-based plating systems;
- Substitution of trivalent chromium for toxic hexavalent chromium for some applications;
- Replacement of some single metal systems with alloy systems (e.g., replacing cadmium with zinc-nickel)
- Metal "entrapment" methodologies to return metals to the primary plating bath (i.e., use of countercurrent rinsing returning rinses to a primary plating bath that operates on an evaporator).
- Metal concentrating techniques (electrodialysis (ED), ion exchange (IX))

The results of a 1993 study by the National Center for Manufacturing Sciences (NCMS) and the National Association of Metal Finishers (NAMF) show that 90 percent of the 318 facilities that responded (16% response rate of 1,971 facilities queried) use pollution prevention methods and have benefitted from them. Water conservation and in-process recycling techniques were noted to be more frequently used than chemical recovery. Approximately 60 percent of respondents attempted material substitution to reduce or eliminate one or more of the following materials: Cadmium, chromium (hexavalent), cyanide and chlorinated solvents.<sup>9</sup>

The economics of waste disposal result in an unacceptable amount of F006 being land-disposed rather than recycled, because recycling is typically more expensive. Most F006—80-90 percent—is treated and disposed of through stabilization and placement in RCRA subtitle C permitted hazardous waste landfills.<sup>10</sup> This means potentially recoverable metals (*i.e.*, those that are land-disposed) no longer available for commerce. Several of the more prominent metals (*e.g.*, nickel and chromium) are strategic metals that are not available in the U.S. If the source of these metals was unavailable for any period of time because of global economic or political uncertainties, the economy and defense of the U.S. may be seriously jeopardized.

#### National F006 Benchmark Study Approach

The workgroup designed a two-year study methodology. The group focused on three analytical questions to guide its work on characterizing current practices in the metal finishing industry, and the composition and management of F006:

- What are the chemical characteristics of F006?
- What can metal finishers do to make F006 more recyclable, while optimizing pollution prevention? What pollution prevention measures are in place at metal finishing facilities?
- What are the environmental impacts of F006 recycling?

The technical work required for this study was completed by Science Applications International Corporation (SAIC) under contract to the EPA. The contract work was managed by an EPA workgroup member working in close coordination with the workgroup. The workgroup monitored progress and critiqued results throughout the analysis process. The members of the workgroup were:

Diane Cameron (Natural Resources Defense Council)  
 John Lindstedt (AESF, Artistic Plating Company, Milwaukee, WI)  
 Bill Sonntag, (AESF, NAMF, MFSA)  
 Al Collins (AESF, NAMF, MFSA)  
 Andy Comai (United Auto Workers)  
 Tom Wallin (Illinois EPA)  
 Doreen Sterling (U.S. EPA)  
 Mike Flynn (U.S. EPA)  
 Jim Lounsbury (U.S. EPA)  
 Jeff Hannapel (U.S. EPA)  
 John Lingelbach, facilitator, (Decisions and Agreements, LLC, Denver, CO)

#### Methodology of Study

The workgroup designed a five-part "benchmarking" study approach to address the three analytical questions identified above. A Quality Assurance Project Plan was developed and approved for this study and is available in a separate report.<sup>11</sup> The five portions of the study are summarized here:

1. A "Regional Benchmarking Study" that involved site visits to 29 metal finishing shops in three cities to gather detailed data on plating processes and pollution prevention practices, and to collect random current F006 samples.
2. A "National Benchmarking Study" that used a mail survey to gather less detailed data on metal finishing operations, pollution prevention practices, F006 characteristics and management practices from a broad range of metal finishers.
3. An analysis that evaluates the extent to which the regional and national benchmarking studies represent the universe of metal finishers.
4. A Survey of Commercial Recycling Companies to gather data on the amount of F006 recycled and the chemical composition of F006

- accepted for recycling.
5. A "Community Interest Group Phone Survey" to assess whether community groups in the vicinity of commercial recycling companies believe those companies are good environmental and/or economic neighbors.

#### Regional Benchmarking Study

The workgroup developed a method for identifying and gathering information from metal finishing companies that are judged to be the "typical" facilities in the metal finishing universe.

The workgroup identified 10 cities known to have high populations of metal finishing facilities. Milwaukee, Chicago and Phoenix were chosen as cities that are representative of the metal finishing industry in terms of the processes they use and the industries they serve.

The workgroup agreed on a list of criteria for selecting facilities and tried to include, as much as possible, a balanced distribution of the following criteria in making facility selections. Selection criteria were:

- Type of shop: captive/job,
- Size: number of employees,
- Type of deposition process in use: zinc, chromium, cyanide copper, etc.,
- Pollution prevention technologies in use,
- F006 treatment technology:
  - alkaline precipitation
  - off-site metals recovery,
  - landfilling of F006.

In all cities, the potential facilities were placed into a "blind" matrix and selected on the basis of the above criteria.

The workgroup developed additional information regarding the third criteria listed above (Type of Deposition Process in Use) for the first sampling city. Five plating processes were identified as among the most frequently used processes in the metal finishing industry. Studying facilities that operate these processes would provide the workgroup with key information about these common processes. The five processes included:

- Zinc plated on steel,
- Nickel/chromium plated on steel,

- Copper/nickel/chromium plated on nonferrous alloys,
- Copper plating/stripping in the printed circuit industry, and
- Chromium plated on steel.

These five processes are among the 25 most common processes identified in the NCMS/NAMF study (1994), and were the main criteria in selecting facilities in Milwaukee. Facility selection in Chicago began using the five processes, but resulted in a principal focus on facilities that operate copper/nickel/chromium electroplate on nonferrous processes—a plating process used by one-half of Chicago platers. Facility selection in Phoenix focused on obtaining data from metal finishers that serviced the printed circuit board and aerospace industries.

A survey was mailed to each facility to gather basic data from facility records. On-site visits were completed to gather detailed data on metal finishing processes, pollution prevention practices, recycling practices, F006 quantities and F006 handling and management practices (handling practices were recorded only in Chicago and Phoenix). The site visit information collection protocol is provided in Table 3.

Forty-six (46) composite samples of F006 were collected from the 29 facilities and transported to an EPA-certified laboratory for chemical analysis and quality assurance methods. Two samples of F006 sludge were collected at some facilities (selected at random) as spot-checks for variability in chemical content. All samples were analyzed for total concentrations of metals, TCLP metals and general chemistry analyses. Four of the samples collected in Milwaukee were also analyzed for total volatile and semi-volatile organic constituents, and TCLP volatile and semi-volatile organic constituents.

The results of the organic analysis in Milwaukee showed undetectable levels in nearly all cases, and therefore, no further organics testing was conducted in the remaining two cities. The laboratory results were reviewed for accuracy and completeness and provided to each facility for review and comment.

\*\*All study data is provided in Table 4.

**Table 3\***  
**Checklist Used to Identify  
Pollution Prevention Technologies At Metal Finishing Facilities**

<p><b>1. SPENT PLATING SOLUTIONS</b></p> <p>General Bath Life Extension</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Filtration</li> <li><input type="checkbox"/> Carbon treatment</li> <li><input type="checkbox"/> Replenishment</li> <li><input type="checkbox"/> Purified water</li> <li><input type="checkbox"/> Electrolytic dummying</li> <li><input type="checkbox"/> Cyanide bath carbonate freezing</li> <li><input type="checkbox"/> Precipitation</li> <li><input type="checkbox"/> Monitoring</li> <li><input type="checkbox"/> Housekeeping</li> <li><input type="checkbox"/> Drag-in reduction</li> <li><input type="checkbox"/> Purer anodes &amp; bags</li> </ul> <p>Hexavalent Chrome Alternatives</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Trivalent chrome</li> <li><input type="checkbox"/> Non-chrome conversion coatings</li> </ul> <p>Nonchelated Process Chemistries</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Continuous filtration</li> </ul> <p>Non-cyanide Process Chemicals</p> <p>Solvent Degreasing Alternatives</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Hot alkaline cleaning</li> <li><input type="checkbox"/> Electrocurrent</li> <li><input type="checkbox"/> Ultrasonic</li> </ul> <p>Alkaline Cleaners</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Filtration (Micro/Ultra)</li> <li><input type="checkbox"/> Skimming</li> <li><input type="checkbox"/> Coalescer</li> </ul> <p>Caustic Etch Solution Regeneration</p> <p>Acid Purification</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Ion exchange</li> </ul>	<p><b>P2 Technology</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Workpiece positioning</li> <li><input type="checkbox"/> Withdrawal &amp; drainage time</li> <li><input type="checkbox"/> Air knives</li> <li><input type="checkbox"/> Spray or fog rinses</li> <li><input type="checkbox"/> Plating baths</li> <li><input type="checkbox"/> Drainage boards</li> <li><input type="checkbox"/> Dragout tanks</li> </ul> <p><b>3. DRAG-OUT RECOVERY</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Evaporation</li> <li><input type="checkbox"/> Ion exchange</li> <li><input type="checkbox"/> Electrowinning</li> <li><input type="checkbox"/> Electrolysis</li> <li><input type="checkbox"/> Reverse osmosis</li> <li><input type="checkbox"/> Meshpad mist eliminators</li> </ul> <p><b>4. RINSEWATER</b></p> <p>Improved Rinsing Efficiency</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Spray rinse/rinsewater agitation</li> <li><input type="checkbox"/> Increased contact time/multiple rinses</li> <li><input type="checkbox"/> Countercurrent rinsing</li> </ul> <p>Flow Controls</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Flow restrictors</li> <li><input type="checkbox"/> Conductivity-actuated flow control</li> </ul> <p>Recycling/Recovery</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Rinsewater</li> <li><input type="checkbox"/> Spent process baths</li> <li><input type="checkbox"/> Solvents</li> </ul>
<p><b>2. DRAG-OUT REDUCTION</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Process bath operating concentration &amp; temperature</li> <li><input type="checkbox"/> Wetting agents</li> </ul>	<p><i>*Mark those techniques in use.</i></p>

#### **F006 Compositional Data & Results\*\***

The four tenants that the U.S. EPA used as its basis for listing F006, while true in 1980, are no longer accurate or applicable today. The results of the data from this study are conclusive in demonstrating that listing of all wastewater treatment sludge as a group as hazardous is incorrect when evaluated against the 1980 EPA criteria. Based on the data of the Regional Benchmarking Study the majority of F006 sludge generated (55%) is nonhazardous. Furthermore, listing sludges as a group is incorrect, and acts as a barrier to additional pollution prevention activities and to engineering innovation within the finishing industry. Because there is no

effective exit strategy for F006 from its listing, there is marginal if any incentive to re-engineer treatment systems or to encourage process substitution. Regardless of techniques employed or how a system is engineered, the end product of an electroplating wastewater facility is hazardous, regardless of effort.

*"Wastewater treatment sludges from the listed electroplating operations contain significant concentrations of the toxic metals chromium, cadmium and nickel and toxic complex cyanides. Leaching tests using the extraction procedure specified in the extraction procedure toxicity characteristic have shown that these metals leach out in significant concentra-*

tions, with some samples failing the extraction procedure toxicity characteristic."

The EPA has stated that the basis for listing the F006 wastewater treatment sludge as hazardous was because of the presence of cadmium, hexavalent chromium and cyanide contents, and that they have the potential to leach from the waste. The results from this survey, for the most part, parallel the EPA's findings. When a F006 sludge is actually hazardous, it is due to either cadmium, chromium or cyanide. However, the EPA's misconception that all electroplating wastewater treatment sludges from electroplating operations contain cadmium, chromium or cyanide is incorrect. Fifty-five per cent (55%) of the F006 sludge tested (16 out of the 29 samples) did not contain hazardous concentrations of cadmium, chromium or cyanide.

#### Cadmium

Of the 29 samples that were analyzed, only five (5) were determined to be hazardous per TCLP cadmium characteristics. Based on the samples analyzed and the accompanying facility information, it can be concluded that if a facility conducts cadmium plating, their waste will contain enough cadmium to deem it hazardous per characteristics. This is due to the high toxicity of cadmium and, hence, the low TCLP cadmium limit (1.0ppm).

Of the five sampled facilities that conducted cadmium plating, all five of the wastes had hazardous cadmium levels. These wastes made up 17 percent (5 out of 29) of the total wastes analyzed and 38 percent (5 out of 13) of the wastes that were truly hazardous. If cadmium plating were eliminated from these facilities, however, the total percentage of hazardous F006 waste would be reduced from 45 percent to 27.5 percent.

If F006 could be characterized on the basis of its chemical composition, these facilities would have an incentive with which to help them make their decision whether or not to deposit this metal. Such an incentive (substitution of cadmium with a process which would produce a nonhazardous sludge, i.e., zinc-nickel)

could be enough to remove this metal out of the facility's waste stream. The facility under that scenario may continue to plate cadmium as a business decision, but it would have a choice to make. Today, due to listing, there is no other option. **There exists a barrier to cadmium substitution.**

#### Cyanide

Twenty (20) of the 29 samples had cyanide present in the waste. However, only six of these samples had cyanide that was reactive (via amenable to chlorination testing), and of these six, only three had reactive cyanide in quantities over 30 ppm hazardous. One of these three samples was already deemed hazardous because of TCLP cadmium content. The remaining 17 that had cyanide had either no reactive cyanide or very little reactive cyanide. Most or all of the cyanide present in these wastes was stabilized. The EPA has, in fact, delisted F006 wastes that have ten-of-thousands of ppm of stabilized cyanide and very little reactive cyanide. Therefore, they should consider these 17 samples nonhazardous as well.

If cyanide was replaced with non-cyanide materials and cadmium plating was eliminated, the amount of F006 listed hazardous waste that was truly hazardous would be reduced to 21 percent (6 out of 29).

If the hazard definition of the treatment sludge is based on the leachable chemical composition and not on a 20-year old decision, this would provide an incentive upon which to base the decision of whether or not to use a cyanide process. There currently is an incentive in the regulatory framework that has moved the industry away from cyanide use. This is the land ban. How much more could be accomplished via process substitution if an additional incentive in the form of an exit strategy from RCRA hazard codes were available to the industry?

At the time RCRA regulations were promulgated and F006 waste was designated, the EPA did not have any requirements on maximum cyanide content in the waste (590/30 mg/Kg) as there is today. Currently, the cyanide-bearing F006 sludges are subject to stabilization, if the cyanide content exceeds the 590/30mg limit. F006 waste contained high amounts

of cyanide in 1980. Today, F006 waste is subject to cyanide limitations, and those limitations result in a waste that is by necessity a much lower hazard due to cyanide content.

It is generally accepted that an F006 waste that meets the 590/30mg/Kg limit contains cyanide that is complexed by iron.

The EPA is on record, stating that ferri and ferro cyanide complexes do not present a health hazard:

1. "Ferricyanides and ferrocyanides are expected to be extremely stable and insoluble in water."<sup>12</sup>
2. "Constituents of concern (ferri/ferro cyanide) are tightly bound in the waste matrix and thus are not available for leaching."
3. "EPA believes these immobile iron-cyanide complexes do not present a threat to human health via ingestion of contaminated drinking water."<sup>13</sup>

#### Chromium

Of the 29 samples that were analyzed, only five (5) were determined to be definitely hazardous per TCLP chromium characteristics (11%). Of the 16 sampled facilities that plated chromium, only five generated hazardous waste due to TCLP chromium content. One of the reasons that the EPA listed F006 waste was because there were large quantities of hexavalent chromium in the sludge. This was not found in the study.

The results indicate that the chromium present in the sludge is almost entirely trivalent chromium—not hexavalent chromium. The data indicate that nine of 37 sample points (24%) had no detection of hexavalent chromium. Of the remaining 28 sample points, the wide dispersion between median and mean values of hexavalent chromium—11.0ppm versus 108.9ppm—indicate the presence of outliers, which skews the data. Most of the facilities have a chromium content of their sludge close to the median value of 11.0 ppm. This is indicative of well-functioning waste treatment systems and is not supportive of the EPA's conclusion that improper reduction of the hexavalent state would lead to large amounts of sludge contaminated with hexavalent chromium.

Table 4

Milwaukee F006 Analytical Data										Chicago F006 Analytical Data									
Constituents	# of Samples Included in Calculation* (Percent)	# of Non-Detects (Percent)	# Samples Above Instrument Detection, Below Method Quas. Limit (Percent)	Min	Mean	Med	Max	Constituents Total Concentration (mg/kg)	# of Samples Included in Calculation* (Percent)	# of Non-Detects (Percent)	Min	Mean	Med	Max					
Aluminum	16(100%)	0(0%)	0(0%)	311.00	8,488.19	3,005.00	31,200.00	Aluminum	15(100%)	0(0%)	153.00	8,920.00	597.00	45,900.00					
Antimony	18(63%)	6(33%)	1(6%)	1.80	43.49	13.85	161.00	Arsenic	2(13%)	1(50%)	90.00	148.50	148.50	207.00					
Arsenic	14(88%)	2(12%)	2(12%)	3.10	9.27	9.35	18.30	Barium	15(100%)	0(0%)	39.00	39.00	39.00	39.00					
Barium	13(81%)	3(19%)	3(19%)	29.20	175.11	83.40	843.00	Beryllium	4(26%)	1(25%)	20.00	265.60	76.00	1,080.00					
Beryllium	2(13%)	1(50%)	0(0%)	0.59	0.64	0.64	0.69	Bismuth	11(74%)	1(7%)	7.00	18.50	15.00	37.00					
Bismuth	7(44%)	3(43%)	0(0%)	2.10	17.24	3.30	72.50	Cadmium	12(80%)	1(7%)	19.00	43.50	44.50	66.00					
Cadmium	9(56%)	3(33%)	0(0%)	2.10	17.24	3.30	72.50	Calcium	3(20%)	0(0%)	9.00	10,652.67	2,264.00	71,300.00					
Calcium	13(81%)	0(0%)	0(0%)	2.10	4,695.08	10.10	39,300.00	Chromium	15(100%)	0(0%)	4,040.00	30,018.00	18,200.00	83,900.00					
Chromium	16(100%)	0(0%)	0(0%)	855.00	55,947.19	37,800.00	141,000.00	Copper	0(0%)	0(0%)	73.00	26,650.60	18,700.00	83,900.00					
Chromium, hex	16(100%)	0(0%)	0(0%)	193.00	52,685.19	39,600.00	193,000.00	Iron	15(100%)	0(0%)	86.00	16,959.67	4,230.00	91,600.00					
Cyanide, amea	16(100%)	0(0%)	0(0%)	33.60	16,506.14	14,300.00	41,500.00	Lead	5(0%)	0(0%)	5.00	1,101.67	161.00	10,300.00					
Percent Solids	16(100%)	0(0%)	0(0%)	3,350.00	93,421.88	86,450.00	279,000.00	Magnesium	15(100%)	0(0%)	1,340.00	71,460.67	27,200.00	336,000.00					
				64.80	684.05	410.00	2,870.00	Manganese	15(100%)	0(0%)	103.00	1,135.40	799.00	3,300.00					
				355.00	14,469.06	12,700.00	44,300.00	Mercury	5(33%)	1(20%)	106.00	17,886.00	7,390.00	98,800.00					
				199.00	956.57	1,024.30	1,710.00	Nickel	15(100%)	0(0%)	ND	ND	ND	ND					
				0.260	0.700	0.350	2.000	Selenium	0(0%)	0(0%)	27.00	163.00	172.00	351.00					
				57.10	49,295.69	25,300.00	180,000.00	Silver	15(100%)	0(0%)	1,060.00	22,019.33	11,600.00	89,200.00					
				1.90	7.86	6.30	16.60	Sodium	10(67%)	5(33%)	68.00	16,274.80	10,920.00	41,200.00					
				1.50	130.46	56.20	67.00	Tin	15(100%)	0(0%)	1,070.00	145,921.33	89,200.00	460,000.00					
				3,830.00	21,047.50	16,150.00	84,300.00	Zinc	15(100%)	0(0%)	ND	ND	ND	ND					
				9.00	998.73	370.50	8,070.00	Arsenic	15(100%)	15(100%)	0.70	0.75	0.75	0.80					
				3,790.00	114,666.00	83,900.00	336,000.00	Barium	1(7%)	14(93%)	0.02	18.23	1.00	144.00					
				ND	ND	ND	ND	Cadmium	9(60%)	6(40%)	0.02	0.41	0.08	2.80					
				0.26	1.25	1.40	2.20	Chromium	8(53%)	7(47%)	ND	ND	ND	ND					
				0.04	2.19	0.08	13.30	Lead	0(0%)	15(100%)	ND	ND	ND	ND					
				0.20	17.86	12.75	56.20	Mercury	3(20%)	12(80%)	0.001	0.005	0.002	0.011					
				0.10	0.45	0.21	1.30	Selenium	0(0%)	15(100%)	ND	ND	ND	ND					
				0.005	0.006	0.005	0.009	Silver	4(27%)	11(73%)	0.03	1.00	0.08	3.80					
				0.08	0.08	0.08	0.08	General Chemistry (mg/kg)											
				3(19%)	3(19%)	0.05	0.05	Chloride	15(100%)	0(0%)	372.00	11,669.73	2,380.00	70,100.00					
				15(94%)	15(94%)	0.05	0.05	Fluoride	10(67%)	5(33%)	17.50	694.64	254.50	4,210.00					
				190.00	8,792.50	6,750.00	30,000.00	Chromium, hex	13(87%)	2(13%)	1.00	115.07	18.00	1,190.00					
				1.20	297.75	120.00	1,600.00	Total Cyanide	15(100%)	0(0%)	0.80	1,341.62	373.00	3,920.00					
				0.10	67.76	0.63	900.00	Cyanide, amea	15(100%)	0(0%)	2.60	1,183.31	285.00	5,340.00					
				2.00	202.50	60.00	2,700.00	Percent Solids	15(100%)	0(0%)	13.50	32.53	32.80	57.00					
				14.80	42.96	40.85	77.40												

Phenix '06 Analytical Data										All Cities Combined '06 Analytical Data									
Constituents	Total Concentration (mg/L)	# of Samples Included in Calculation* (Percent)	# of Non-Detects (Percent)	Min	Mean	Med	Max	Constituents	Total Concentration (mg/kg)	# of Samples Included in Calculation* (Percent)	# of Non-Detects (Percent)	Min	Mean	Med	Max				
Aluminum	15(100%)	15(100%)	0(0%)	59.00	23,082.10	2,860.00	76,100.00	Aluminum	46(100%)	46(100%)	0(0%)	59.00	13,387.90	1,725.00	76,100.00				
Antimony	5(33%)	16(57%)	16(57%)	44.00	7,293.60	221.00	34,800.00	Antimony	17(37%)	17(37%)	18(39%)	1.80	2,188.23	67.40	34,800.00				
Arsenic	13(67%)	2(13%)	2(13%)	2.00	1,115.31	11.00	8,780.00	Arsenic	28(61%)	28(61%)	3(7%)	2.00	489.67	10.00	8,780.00				
Barium	15(100%)	0(0%)	0(0%)	6.00	153.87	67.00	686.00	Barium	43(93%)	43(93%)	40(87%)	6.00	199.27	73.70	1,080.00				
Beryllium	0(0%)	15(100%)	15(100%)	ND	ND	ND	ND	Beryllium	17(37%)	17(37%)	29(63%)	0.59	12.55	37.00	37.00				
Bismuth	6(40%)	9(60%)	9(60%)	19.00	95.00	30.50	398.00	Bismuth	21(46%)	21(46%)	25(54%)	2.10	50.86	29.00	398.00				
Cadmium	15(100%)	0(0%)	0(0%)	3.00	154.00	17.50	806.00	Cadmium	46(100%)	46(100%)	0(0%)	682.00	37,239.28	17,250.00	143,000.00				
Chromium	15(100%)	0(0%)	0(0%)	10.00	24,505.50	15,100.00	143,000.00	Chromium	46(100%)	46(100%)	0(0%)	10.00	39,501.20	13,900.00	206,000.00				
Copper	15(100%)	0(0%)	0(0%)	38,595.30	11,500.00	248.00	206,000.00	Copper	46(100%)	46(100%)	0(0%)	33.60	55,474.35	10,620.00	631,000.00				
Iron	15(100%)	0(0%)	0(0%)	135,553.00	11,500.00	631,000.00	631,000.00	Iron	46(100%)	46(100%)	0(0%)	364.00	82,420.74	48,900.00	560,000.00				
Lead	15(100%)	0(0%)	0(0%)	417.00	66,219.60	7,990.00	560,000.00	Lead	44(96%)	44(96%)	2(4%)	5.00	85,754.10	346.00	175,000.00				
Magnesium	15(100%)	0(0%)	0(0%)	187.00	62,783.10	10,700.00	319,000.00	Magnesium	46(100%)	46(100%)	0(0%)	187.00	48,798.09	10,800.00	336,000.00				
Manganese	15(100%)	0(0%)	0(0%)	13.00	438.00	183.00	2,080.00	Manganese	46(100%)	46(100%)	0(0%)	13.00	830.91	563.00	3,100.00				
Mercury	15(100%)	4(27%)	11(73%)	0.300	0.380	0.350	0.500	Mercury	15(33%)	15(33%)	31(67%)	0.070	0.390	0.300	2.000				
Nickel	0(0%)	15(100%)	15(100%)	51.00	8,254.67	3,080.00	71,900.00	Nickel	46(100%)	46(100%)	0(0%)	51.00	23,456.33	5,935.00	180,000.00				
Selenium	13(87%)	2(13%)	2(13%)	ND	ND	ND	ND	Selenium	10(22%)	10(22%)	36(78%)	1.50	7.86	6.50	16.60				
Silver	15(100%)	0(0%)	0(0%)	3.00	212.46	23.00	1,190.00	Silver	38(83%)	38(83%)	8(17%)	1.50	169.64	87.50	1,190.00				
Sodium	15(100%)	0(0%)	0(0%)	25.00	12,135.70	5,660.00	41,600.00	Sodium	46(100%)	46(100%)	0(0%)	25.00	18,488.37	11,000.00	89,200.00				
Tin	15(100%)	0(0%)	0(0%)	38.00	45,228.10	2,370.00	467,000.00	Tin	41(89%)	41(89%)	5(11%)	9.00	20,906.06	1,100.00	467,000.00				
Zinc	15(100%)	0(0%)	0(0%)	57.00	6,633.80	672.00	31,600.00	Zinc	45(98%)	45(98%)	1(2%)	57.00	88,692.44	24,600.00	460,000.00				
<b>TCLP (mg/L)</b>																			
Arsenic	0(0%)	15(100%)	15(100%)	ND	ND	ND	ND	Arsenic	0(0%)	46(100%)	46(100%)	ND	ND	ND	ND	ND			
Barium	0(0%)	16(93%)	1(7%)	1.50	1.50	1.50	1.50	Barium	6(13%)	6(13%)	40(87%)	0.26	1.29	1.45	2.20				
Cadmium	4(27%)	11(73%)	11(73%)	0.02	0.04	0.03	0.10	Cadmium	21(46%)	21(46%)	25(54%)	0.02	8.36	0.11	144.00				
Chromium	5(33%)	10(67%)	10(67%)	0.02	0.53	0.56	1.06	Chromium	27(59%)	27(59%)	19(41%)	0.02	9.48	0.92	56.20				
Lead	11(73%)	4(27%)	4(27%)	0.06	155.24	0.13	1,630.00	Lead	15(33%)	30(67%)	30(67%)	0.06	113.97	0.13	1,630.00				
Mercury	1(7%)	14(93%)	14(93%)	0.003	0.003	0.003	0.003	Mercury	7(15%)	39(85%)	39(85%)	0.001	0.005	0.005	0.011				
Selenium	0(0%)	15(100%)	15(100%)	ND	ND	ND	ND	Selenium	12(26%)	34(74%)	45(98%)	0.08	0.08	0.08	0.08				
Silver	0(0%)	15(100%)	15(100%)	ND	ND	ND	ND	Silver	5(11%)	41(89%)	40(89%)	0.03	0.67	0.06	3.80				
<b>General Chemistry (mg/kg)</b>																			
Chloride	15(100%)	0(0%)	0(0%)	64.00	3,592.50	1,490.00	24,000.00	Chloride	46(100%)	46(100%)	0(0%)	64.00	8,035.09	2,225.00	70,100.00				
Fluoride	14(93%)	1(7%)	1(7%)	49.50	1,539.56	793.00	4,240.00	Fluoride	39(85%)	39(85%)	7(15%)	1.20	719.06	161.00	4,240.00				
Chromium, hex	8(53%)	7(47%)	7(47%)	5.00	152.63	55.00	548.00	Chromium, hex	37(80%)	37(80%)	9(20%)	0.10	108.89	11.00	1,190.00				
Total Cyanide	7(47%)	14(93%)	14(93%)	1.10	141.37	102.00	579.00	Total Cyanide	34(74%)	34(74%)	12(26%)	0.80	692.47	114.50	3,920.00				
Cyanide, anion	1(7%)	14(93%)	14(93%)	3.90	141.56	30.10	809.00	Cyanide, anion	41(89%)	41(89%)	5(11%)	2.60	699.56	51.00	5,340.00				
Percent Solids	15(100%)	0(0%)	0(0%)	20.90	37.09	29.30	94.10	Percent Solids	46(100%)	46(100%)	0(0%)	13.50	37.65	30.80	94.10				

*"The possibility of groundwater contamination via leaching will exist if these materials are improperly disposed."*

The references listed in the 1980 Background Document cite land disposal and mismanagement techniques that date back into the first half of the century.<sup>14</sup> Any land disposal then by today's standards was improper. Lagooning, dry beds and dump burial in sanitary landfills were all that was available. Today's RCRA requirements for land disposal facilities with geological site suitability, multiple containment engineering methodologies, leachate monitoring and run off control all but negate the earlier concern by the agency.

*"A large quantity of this waste is generated annually with amounts expected to increase substantially when the pretreatment standards for these sources become effective."*

The amount of F006 that was generated annually substantially increased in the early 1980s because of the required implementation of wastewater treatment systems. Today, however, many electroplaters and metal finishers have implemented pollution prevention (P2) techniques in their processes that have significantly reduced the amount of F006 sludge that is generated annually. Most plating facilities implemented P2 techniques to improve compliance with categorical wastewater discharges. As these methodologies removed metal from the discharge stream and returned them to the primary process bath or concentrated them, making on-site recovery possible, the amount of metals in the aqueous phase decreased, as well as the amount of sludge generated.

The amount of sludge generated has dramatically decreased from the initial commencement of effluent guidelines. The EPA estimates indicate 900,000-1,200,000 tons of sludge produced per year. The Surface Finishing Market Research Board (SFMRB) reports that the maximum amount of sludge generated annually within the U.S. is 445,500 tons from a universe of 7,000 job shops and 3,000 captive facilities. The average annual amount of F006 generated by this survey is 213,840 tons.<sup>15</sup> This repre-

sents a considerable decrease from earlier estimates. Pollution prevention, as it is embraced by industry, works. There is a need to remove the remaining barriers that limit the implementation of additional P2 practices. Listing of F006 is such a barrier. If removed, more process substitution would be placed in service. Waste stream segregation would occur, which would produce characteristically nonhazardous sludges.

*"Damage incidents (i.e. contaminated wells, destruction of animal life, etc.) that are attributable to the improper disposal of electroplating wastes have been reported, thus indicating that the wastes may be mismanaged in actual practice, and are capable of causing substantial harm if mismanagement occurs."*

If a hazardous waste or a nonhazardous waste is mismanaged, harm to society can result. Mismanagement is not unique to its hazard code. RCRA regulations stipulate very precise management practices for wastes that are under its jurisdiction. It is not the intent of a possible de-listing of F006 to remove management practices for secure storage, transport manifesting and training, which have significantly reduced damage incidents. The intent is to build on the management success of the last 20 years and to allow for an exit strategy for F006 that encourages resource reclamation and the promotion of additional pollution prevention methodologies. The EPA has the authority within the RCRA regulatory framework to accomplish these dual goals.

#### Financial Considerations

There is a considerable amount of value in wastewater treatment sludges in the form of precipitated metal hydroxides. The 29 facilities sampled shipped off-site 3,803 tons of F006. This contained:

- Aluminum—40,241 lbs.
- Copper—217,053 lbs.
- Nickel—18,883 lbs.
- Tin—9819 lbs.
- Zinc—395,784 lbs.
- Chromium—68,639 lbs.

The value of this commodity is approximately \$750,000! Such a

waste of resources (\$26,000/facility/year) is difficult to comprehend. A more complete and detailed treatment of the economics and societal costs associated with the current disposal practices of the resource (F006) will be treated in a subsequent paper.

#### Conclusion

"Command and control" regulations had an immediate and favorable environmental impact on the removal of pollutants from the waters of the U.S. They have, however, run their course. Further environmental improvement will require new strategies that attack the more ubiquitous pollutants in the environment, while more efficiently using our resources to effect their removal. Performance-based systems such as the Strategic Goals Program provide such a strategy. Innovative thought to encourage "beyond-compliance" performance by removing hindrances to improved environmental performance make common sense.

Just as a continuation of command and control methodologies will not improve effluent water quality in the next decade, a continuation of the assignment of an improper hazardous label to wastewater treatment sludges will not promote pollution prevention and the removal of toxins from this product. It will continue the squandering of a societal resource. The U.S. EPA had ample reason 20 years ago to list wastewater treatment sludges generated from electroplating as hazardous. The basis of their reasoning, however, no longer exists for approximately half of all F006 generated in the U.S. today. It is no longer accurate to say that all F006 contains cyanide, cadmium, chromium. *Some does, but not all.* It is no longer accurate to hold the belief that industry management practices are unacceptable. *They are not.* It is no longer accurate to state that the volume of treatment sludges is growing or will continue to increase. *It is not.* Damage incidents are dramatically less from industry-related releases.

Incentives have demonstrated their ability to alter industry performance. The incentive of a land ban on placing cyanide into landfills has caused industry to respond with and use substitute processes. Unlimited liability has caused 40 percent of



From: Riverside Spring Company

Subject: Effects of Steel Crisis on My Small Business

Mr. Chairman, Nydia Velazquez, and Members of the Committee. I truly appreciate this opportunity to share the effects the steel crisis has had on my small business and many others.

My name is Charlotte Vincer. I am the Sales Manager and Partner of Riverside Spring Company, a family owned spring and wire form business located in Rockford, Illinois. I am proud to say, we began this business with one machine and one customer 15 years ago. Over the years we have had considerable growth and positive profit margins. However, we all felt the impact of a few years ago through the economic down turn. The recession dwindled our customer base and I too did not feel comfortable when NAFTA came into play.

Today, I wish to share with you how the steel prices have affected my business. I will tell you that what damage our business has sustained through the years of lost customers (by the consuming force of Asia and other countries) cannot even come close to the magnitude of the blow we've taken from this crisis. Our profit margins have been cut nearly in half and we are exhausted from the endless task, of providing proof to our customers, to the explanation of why we have to pass these increases on to them.

My friend Scott Sommers, President of Freeway of Rockford, hit it right on the head when he stated, "It all sounds good that our customers are willing to aid and work with us to combat this problem, but this is not a very value added way of spending our day." Something else that is a very disruption is the P.I.E. (Price in Effect) stipulation the mills have imposed upon us. Not knowing until the ship date what our cost or 'sur charge' will be is absolutely pathetic, to say the least. To further our aggravation, all contracts from our steel suppliers have been broken. How do we quote anything not knowing or having our cost in control? Also, to begin to search for new business is nearly pointless.

By choice, I did not want to be repetitive by providing graphs on our inflated wire and rod costs, as I'm certain you have been saturated with more than plenty. I can tell you, however, my business is at a cross roads of enormous perplexity, humbly asking for a swift resolution to this problem. Flooded with calls from other small manufactures, I am not alone by emphasizing that we do not have the leisure to wait 6 - 8 months for this crisis to "fix itself." And if it does "fix itself" what is preventing this from repeating in 2005 and the years to follow?

I know you are well aware that many small manufactures and people in America have lost majority of their jobs/customers to China. **Non-replaceable** sources that closed their doors, took our profits, in search of cheaper labor, with no insurance costs, and OSHA regulations etc.. Now China's economy is exploding with our lost profits, and inflating our steel costs to build up their economy. Adding salt to the wound, forcing us to raise prices to our existing customers putting them one step closer to considering 'China' as a cheaper source. Hate to say this, but I certainly see a pattern.

In reevaluating the past, the honest thing to do is to first admit that there has been a crisis for a long time. And although there may have been some recovery on the horizon, further disruptions such as this, will only result in complete desolation of the few of us that are left. I for one cannot bear the thought of 15 years of hard work wiped out, and more so because this problem could not be resolved in a more expedient matter.

I am just a simple small business owner, who can offer no solid solutions of my own to this matter. To be quite frank, this is why I'm coming to you. All I can do is confirm what others before me have brought to your attention. There is a definite need for tougher trade policies, making certain from now on, other countries understand that trade is going to be fair and that the manipulation of their currency to demise our economy, is not acceptable. Once again, there is the on going problem of Healthcare, that in it self has been an open sore in need of a long time healing.

Furthermore, we need more tax breaks especially for those manufactures that are remaining in America. Sticking it out through this tangled mess, and with what little strength they have left to be the **Back Bone Of America**, who are driven to rebuild the manufacturing sector, and provide much needed jobs. Personally- I don't want more loans, government or otherwise. God knows we struggle to pay the ones we have now. Make no mistake, these are very challenging times for us and it is taking ever ounce of our time, energy, and finances to hang on.

What I am hoping for is that there will be no more talk, only instead- bold and speedy action to relieve this enormous burden. So we can get back to Business. As for me, I would love to get back to my original job. I think it was in Sales? Six months of battling prices between our vendors and customers has been fatiguing.

Mr. Chairman and Members of the Committee, I will close with this. With my deepest sincerity, I am praying for the leaders of this great country. I'm praying that God will give you the wisdom to make the right decisions; to which, will determine whether my doors will be open or closed within the near future.

Thank you.



**Testimony of the  
American Road and Transportation  
Builders Association**

**Presented before the**

**House Small Business Committee  
by**

**Patrick P. Loftus,  
President, High Steel Structures**

**March 25, 2004**

**Testimony of Mr. Patrick P. Loftus, Lancaster, Pennsylvania, on behalf of the American Road and Transportation Builders Association before the Small Business Committee of the U.S. House of Representatives, March 25, 2004.**

Mr. Chairman, Congresswoman Velazquez, members of the Committee, thank you very much for providing the American Road and Transportation Builders Association (ARTBA) an opportunity to testify on the impact of skyrocketing steel price on the transportation construction industry.

I am Patrick P. Loftus, President of High Steel Structures, Inc., a family-owned business located in Lancaster, Pennsylvania, that manufactures and installs steel superstructure for highway and railway bridges. We are currently the steel superstructure contractor for 45 highway projects in 7 states (MD, NY, NJ, PA, RI, MA, VA), and the District of Columbia and employ 800 people. I currently serve as President of ARTBA's Materials and Services Division and am on the ARTBA Board of Directors.

ARTBA celebrated its 100<sup>th</sup> anniversary in 2002. Over the past century, its core mission has remained focused on aggressively advocating federal capital investments to meet the public and business community's demand for safe and efficient transportation. The transportation construction industry ARTBA represents generates more than \$200 billion annually to the nation's Gross Domestic Product and sustains more than 2.5 million American jobs. ARTBA's more than 5,000 members come from all sectors of the transportation construction industry. Thus, its policy recommendations provide a consensus view.

Many of our members are small family-run businesses, including a number of minority and women business enterprises. The average number of employees of highway construction contractors is 25 while the typical bridge contractor has 40 employees, and they typically have less than \$2 million of assets.

Steel is the largest single component of structures our company manufactures and installs, and the recent unexpected increase in the price of steel has left our company reeling and its future uncertain. Since the end of last year, prices of the various kinds of steel used in highway and bridge construction in the United States have risen between 30 and 80 percent. The prices we pay for our steel have risen about 40% percent just since the start of the year. These increases in steel prices are due to a convergence of several factors resulting in a "perfect storm" that could not have been foreseen.

These steel price increases will have a very disruptive impact on highway and bridge construction in the very near future.

Without some relief from the Federal Highway Administration and state Departments of Transportation, fabricators of steel components for highway and bridge projects will not be able to deliver their products at contract prices and many will be forced to default on

their contracts. Highway and bridge construction contractors will be left in mid-stream without essential materials and many projects are in danger of coming to a grinding halt just as the 2004 highway construction season gets underway.

This means that thousands of American jobs building highways and bridges could be in jeopardy this summer as well as thousands of jobs in companies like mine that supply materials and services needed by highway and bridge construction contractors.

Steel is a major component of highway and bridge projects. According to the input-output tables of the U.S. economy compiled by the U.S. Department of Commerce, and confirmed by the Federal Highway Administration, steel comprises about five percent of the cost, on average, of highway and bridge construction, with the amount varying by project. For bridges, steel can be as much as one-third of the cost, and for guardrail and sign support structures the percent of cost can be even higher.

Last year, state and local governments awarded just under \$43 billion of new contracts for highway and bridge construction. These projects were bid under the assumption that the necessary steel would be supplied by steel manufacturers at the prices quoted at the time the bids were submitted and the project contracts were awarded. Many of these projects are now under construction.

In the interim, steel production costs have skyrocketed and steel suppliers are quoting much higher prices.

Because steel must be highly engineered, and this detailed engineering must be submitted to and approved by the DOT owner, fabricators of structural steel components of highway and bridge projects cannot simply stockpile the steel needed to deliver on our contracts. It is not unusual for 8 to 10 months to elapse from the time the project is bid until the fabricator has all drawings approved and is in a position to order project specific steel.

When faced with the steel price escalation of recent months, we are left with two choices – put ourselves out of business by delivering the product at last year's price or breaking off contract negotiations or defaulting on our executed contracts. Our bankers won't permit the first choice, so a number of highway and bridge projects will be confronted, starting in just a few weeks, with suppliers defaulting on contracts to supply steel-related components. This will bring these projects to a grinding halt, as contractors try to line up new suppliers.

Small businesses are most vulnerable, particularly minority and women business enterprise—known as MBEs and WBEs. We have one WBE owner in Pennsylvania who has \$10 million of contracts to deliver steel products that are now going to cost her \$16 million to produce. By law, her net worth cannot exceed \$750,000 to qualify for the WBE program. She has no reserve to absorb this kind of loss. At this time, without some relief, she and many others like her are on the verge of going out of business.

High Steel Structures presently has over \$16 million at risk due to sudden and unanticipated cost escalation that is not funded by our original estimated cost. Our steel mill suppliers have simply defaulted on their promised prices and availability leaving us with a commercially impossible situation.

The most vulnerable projects are bridges, such as the Woodrow Wilson Bridge. As the supplier of steel for that bridge, we have already notified the prime contractor that we will not be able to deliver at the contract price. Default on this contract will stop that project in its tracks. This is not a moral issue or issue of honor. Our company's bankers have refused to provide the financing for a contract involving such a loss and the company simply cannot move forward. Many highway projects may also be halted, particularly those using reinforcing bars or rebar, steel piling, sign support structures, and those needing guardrail in place as a condition of opening.

Concrete structures are similarly impacted by dramatic increases in rebar and steel strand material used to both pretension and post tension concrete structures.

Those of us in the highway and bridge construction business recognize that price changes are one of the risks we take to be in this business. The steel price increases of recent months, however, were far outside normal fluctuations and were totally unexpected. After the President lifted the duties on steel imports in 2003, it was widely assumed his action would have a beneficial impact on steel prices. But other forces intervened to drive prices up:

- To support its recent economic expansion, China has been buying up every available ounce of steel scrap, which is a major source of raw materials for new steel. As a result, steel scrap has risen by more than 100 percent.
- Second, the value of the dollar has been falling, which makes scrap purchased in the U.S. a bargain in other countries.
- Third, a fire shut a major coke-manufacturing facility in the U.S. Coke is the essential fuel for manufacturing steel, and the loss of this capacity has put a supply constraint on U.S. steel.

The American Road and Transportation Builders Association, other industry organizations, and many affected companies including my own have been working with the Federal Highway Administration to resolve this problem by encouraging state Departments of Transportation to adopt steel price escalator clauses. We have had three meetings with FHWA to date and have another meeting scheduled next week. A copy of a letter to FHWA Administrator Mary Peters and a resolution passed by the ARTBA Board of Directors are attached as part of my statement.

Many state DOTs already incorporate escalator clauses for asphalt and fuel into highway and bridge construction contracts, and they can do it for steel as well. They have the authority under the "changed conditions" rule, which allows adjustments to contract

provisions. But they are taking the bureaucratic approach that they can't move forward without some word or guidance from FHWA, which has not yet been forthcoming.

What we are seeking is an emergency escalator provision at the state DOT level that would apply only to contracts that were awarded prior to March 1 and only for the actual increase in steel prices on steel invoiced after January 1. The relief would apply only to the difference between what we actually pay for steel and the original estimated contract price, so no contractor would make a penny. New contracts after March 1 would not be affected since they would already incorporate the recent price increase. So, we are looking only at a very limited window for relief.

An analysis of the impact of steel price increases by ARTBA shows that a limited escalator clause for steel would not impose a major cost on state DOTs. Based on last year's \$42.5 billion of new contract awards for highway and bridge projects, the cost of steel comes to about \$2.25 billion annually. Each 1 percent increase in the price of steel would thus cost state DOTs no more than \$22.5 million nationwide. Texas, with a \$4.8 billion highway construction program, would pay an extra \$2.5 million, while states with smaller programs would incur smaller costs. I am attaching the ARTBA analysis, which illustrates the potential cost state-by-state of a 10 percent increase in overall steel prices, as part of my statement.

We would appreciate any support the Small Business Committee might provide in our negotiations with the Federal Highway Administration.

Mr. Chairman, again let me thank you for this opportunity to testify on the impact of the recent steel price increase. I am happy to answer any questions.



**An Analysis of the  
Financial Impact of  
Steel Price Increases  
on the Delivery of  
U.S. Transportation  
Construction Projects**

**American Road & Transportation Builders Association  
Economics & Research Department**

**March 2004**





## **An Analysis of the Financial Impact of Steel Price Increases on the Delivery of U.S. Transportation Construction Projects**

Steel is an essential material component of many transportation infrastructure projects. Thus, the unprecedented and dramatic increase in steel prices that started late in 2003 and has continued through the First Quarter of 2004 is a major concern for private-sector firms and public agencies involved in transportation construction.

This analysis conducted by the American Road & Transportation Builders Association's (ARTBA) economics team attempts to quantify the financial impact higher steel prices have on the cost of delivering highway and bridge projects in the United States. For this analysis, ARTBA examined the impact of a 10 percent steel price increase for the purpose of establishing a baseline. We then calculated a multiplier that can be used to estimate how each percentage increase—or decrease—in the price of steel will impact the real cost of delivering transportation projects.

The analysis utilizes a U.S. Bureau of Economic Analysis (BEA) model that tracks the components that are directly and indirectly required to produce \$1 of industry output to final users.<sup>1</sup> The BEA benchmark studies, produced every five years, measure total industry output on a detailed level.

The BEA model estimates that for every \$1 spent on highway, street, bridge and tunnel construction in the United States, approximately 5.3 cents are spent on steel related inputs (see table on page two). This is the amount of steel and related products that are used directly by highway, bridge and tunnel contractors as well as by fabricators and industries that sell their goods to transportation construction contractors, such as asphalt and aggregate producers. This analysis does not include the impact of higher steel prices on the manufacture or purchase of construction equipment.

To quantify the impact of a 10 percent increase in steel prices, we used the value of state and local contracts awarded in 2003 as an indicator of domestic transportation construction market activity. This totaled \$42.5 billion. The value of the contract awards is derived from data collected by F.W. Dodge and published each month in the ARTBA U.S. Transportation Construction Market Report, which details the number and value of highway and bridge contracts awarded in each state.<sup>2</sup>

Using these assumptions, ARTBA estimates that a 10 percent increase in steel prices will increase the cost of the 2003 contract awards by approximately \$225 million. This figure would be the additional money necessary to deliver the transportation project contracts awarded by state and local governments during 2003 due to higher steel prices. The state-by-state impact at this increase level—which approximately corresponds to the increase in the U.S. iron and steel price index reported by the U.S. Bureau of Labor Statistics between June 2003 and January 2004—is shown in the page three tables.

<sup>1</sup> The BEA Input-Output tables are available online at [www.bea.gov](http://www.bea.gov). We used the 1997 Benchmark table of Industry by Industry Total Requirements after Redefinitions. Specific examples of products produced by a given industry are available through the U.S. Census Bureau at [www.census.gov](http://www.census.gov).  
<sup>2</sup> Data for the ARTBA U.S. Transportation Construction Market Report is compiled by F.W. Dodge, a division of the McGraw Hill Companies. The data is for all publicly-funded contracts announced each month, and does not include work conducted by state and local transportation departments themselves.

At the 10 percent increase level, our analysis finds that steel prices would increase project delivery costs by at least \$10 million in the states of Texas (\$25.5 million), California (\$17.2 million), Florida (\$14.1 million), New York (\$12.7 million) and Illinois (\$10.7 million). The least impacted state would be Vermont at \$411,000.

Field reports indicate, however, that the price for steel products used in transportation construction have continued to increase since January 2004. Our analysis suggests that every 1 percent increase in steel prices will add \$22.5 million to the nationwide cost of delivering highway projects contracted during 2003.

Steel products represent approximately 5 percent of the overall cost of constructing highway and bridge projects in the United States (obviously, the proportional cost of steel will vary depending on the individual project). To estimate the impact of each 1 percent increase in steel prices on the overall highway and bridge contract cost for an individual state, one could multiply the state's contract cost total times 0.05 percent. For example, a 15 percent increase in the price of steel would add \$38.2 million to the delivery cost of highway and bridge projects contracted in 2003 by Texas.

<b>Steel Related Industry<sup>1</sup></b>	<b>Value of output for \$1 demand for highway, street, bridge &amp; tunnel construction</b>	<b>Examples of products produced</b>
Fabricated structural metal manufacturing	0.018	bridge sections, expansion joints, structural steel
Iron and steel mills	0.011	pilings, steel bars & tubes, steel forgings & flats
Sheet metal work manufacturing	0.011	highway guardrails
Spring and wire product manufacturing	0.003	coiled & flat springs, fencing, cables
Steel wire drawing	0.003	steel cables, spikes, nails
Ornamental & architectural metal work manufacturing	0.003	scaffolds, gratings, railings
Ferrous metal foundries	0.002	companies that make steel & iron castings
Iron, steel pipe and tube	0.001	well casings, tubing, conduits
Rolled steel shape manufacturing	0.001	steel bars, flanges, nut rods
<b>TOTAL</b>	<b>0.053</b>	

### Estimated Financial Impact of 10 Percent Steel Price Increase on State Transportation Projects

Based on Year 2003 Contract Awards

State - alphabetical	Total value of highway & bridge contract awards in 2003 (\$ thousands)	Total Cost of Steel Inputs* (\$ thousands)	New Cost of Steel Inputs** (\$ thousands)	Extra Cost (\$ thousands)	State - ranked	Total value of highway & bridge contract awards in 2003 (\$ thousands)	Total Cost of Steel Inputs* (\$ thousands)	New Cost of Steel Inputs** (\$ thousands)	Extra Cost (\$ thousands)
Alabama	694,763	36,822	40,505	3,682	Texas	4,822,216	255,577	281,135	25,558
Alaska	207,751	11,011	12,112	1,101	California	3,253,803	172,452	189,697	17,245
Arizona	793,394	42,050	46,255	4,205	Florida	2,662,436	141,109	155,220	14,111
Arkansas	441,877	23,419	25,761	2,342	New York	2,397,050	137,044	139,748	12,704
California	3,253,803	172,452	189,697	17,245	Illinois	2,016,891	106,895	111,585	10,690
Colorado	602,231	31,918	35,110	3,192	Washington	1,593,412	84,451	92,896	8,445
Connecticut	224,857	11,917	13,109	1,192	Ohio	1,551,630	82,236	90,460	8,224
Delaware	155,078	8,219	9,041	822	Minnesota	1,337,239	70,874	77,061	7,087
District of Columbia	66,098	3,503	3,854	350	Michigan	1,298,094	68,799	75,679	6,880
Florida	2,662,436	141,109	155,220	14,111	Pennsylvania	1,297,755	68,781	75,659	6,878
Georgia	769,319	40,774	44,351	4,077	North Carolina	1,215,467	64,420	70,362	6,442
Hawaii	130,613	6,922	7,615	692	New Jersey	1,056,931	56,017	61,619	5,602
Idaho	192,748	10,216	11,237	1,022	Indiana	1,014,438	53,765	59,142	5,377
Illinois	2,016,891	106,895	117,585	10,690	Missouri	1,003,734	53,198	58,518	5,320
Indiana	1,014,438	53,765	59,142	5,377	Louisiana	897,311	47,557	52,313	4,756
Iowa	528,175	27,993	30,793	2,799	Maryland	881,365	46,712	51,384	4,671
Kansas	620,156	32,368	36,155	3,287	Virginia	807,089	42,776	47,053	4,278
Kentucky	770,540	40,839	44,922	4,084	Arizona	793,394	42,050	46,255	4,205
Louisiana	897,311	47,557	52,313	4,756	South Carolina	771,055	40,866	44,953	4,087
Maine	254,695	13,499	14,849	1,350	Kentucky	770,540	40,839	44,922	4,084
Maryland	881,365	46,712	51,384	4,671	Georgia	769,319	40,774	44,551	4,077
Massachusetts	416,006	22,048	24,253	2,205	Wisconsin	724,749	38,412	42,253	3,841
Michigan	1,298,094	68,799	75,679	6,880	Nevada	693,417	36,857	40,543	3,686
Minnesota	1,337,239	70,874	77,961	7,087	Alabama	694,763	36,822	40,505	3,682
Mississippi	503,939	26,709	29,380	2,671	Kansas	620,156	32,368	36,155	3,287
Missouri	1,003,734	53,198	58,518	5,320	Colorado	602,231	31,918	35,110	3,192
Montana	220,082	11,664	12,831	1,166	Iowa	528,175	27,993	30,793	2,799
Nebraska	317,453	16,825	18,508	1,683	Tennessee	527,933	27,982	30,780	2,798
Nevada	693,417	36,857	40,543	3,686	Mississippi	503,939	26,709	29,380	2,671
New Hampshire	130,726	6,923	7,623	693	Oregon	476,988	25,280	27,808	2,528
New Jersey	1,056,931	56,017	61,619	5,602	Arkansas	441,877	23,419	25,761	2,342
New Mexico	223,784	11,861	13,047	1,186	Massachusetts	416,006	22,048	24,253	2,205
New York	2,397,050	137,044	139,748	12,704	Oklahoma	410,940	21,780	23,958	2,178
North Carolina	1,215,467	64,420	70,362	6,442	West Virginia	333,311	17,665	19,432	1,767
North Dakota	263,530	13,967	15,364	1,397	Nebraska	317,453	16,825	18,508	1,683
Ohio	1,551,630	82,236	90,460	8,224	North Dakota	263,530	13,967	15,364	1,397
Oklahoma	410,940	21,780	23,958	2,178	Maine	254,695	13,499	14,849	1,350
Oregon	476,988	25,280	27,808	2,528	Utah	253,287	13,424	14,767	1,342
Pennsylvania	1,297,755	68,781	75,659	6,878	Connecticut	224,857	11,917	13,109	1,192
Rhode Island	197,206	10,452	11,497	1,045	New Mexico	223,784	11,861	13,047	1,186
South Carolina	771,055	40,866	44,953	4,087	South Dakota	223,312	11,836	13,019	1,184
South Dakota	223,312	11,836	13,019	1,184	Montana	220,082	11,664	12,831	1,166
Tennessee	527,933	27,982	30,780	2,798	Alaska	207,751	11,011	12,112	1,101
Texas	4,822,216	255,577	281,135	25,558	Wyoming	203,134	10,766	11,843	1,077
Utah	253,287	13,424	14,767	1,342	Rhode Island	197,206	10,452	11,497	1,045
Vermont	77,564	4,111	4,522	411	Idaho	192,748	10,216	11,237	1,022
Virginia	807,089	42,776	47,053	4,278	Delaware	155,078	8,219	9,041	822
Washington	1,593,412	84,451	92,896	8,445	New Hampshire	130,726	6,923	7,621	693
West Virginia	333,311	17,665	19,432	1,767	Hawaii	130,613	6,922	7,615	692
Wisconsin	724,749	38,412	42,253	3,841	Vermont	77,564	4,111	4,522	411
Wyoming	203,134	10,766	11,843	1,077	District of Columbia	66,098	3,503	3,854	350
<b>TOTAL</b>	<b>42,529,592</b>	<b>2,254,068</b>	<b>2,479,475</b>	<b>225,407</b>	<b>TOTAL</b>	<b>42,529,592</b>	<b>2,254,068</b>	<b>2,479,475</b>	<b>225,407</b>

\* The estimated cost of steel inputs is based on the U.S. Bureau of Economic Analysis 1997 Benchmark Input-Output tables. Based on this model, for every \$1 of final demand for highway and bridge construction, approximately 5.3 cents goes towards steel inputs.

\*\* A 10 percent increase in steel prices would increase the cost of steel inputs for every \$1 of final demand for highway and bridge construction to 6.03 cents.

Source: Analysis by the American Road & Transportation Builders Association, March 2004  
Contact: Dr. William Buechner, wbuechner@arba.org, 202-289-4434  
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## **Economics & Research Team**

### **Dr. William R. Buechner**

Dr. Buechner is vice president of economics and research at the American Road & Transportation Builders Association in Washington, D.C. Prior to joining ARTBA in July 1996, Dr. Buechner was a senior economist for 21 years on the staff of the Congressional Joint Economic Committee, where he worked with members of Congress on a broad range of economic policy issues. He wrote numerous studies and reports for the Committee, helped Committee members prepare and manage legislation, and managed over 300 Committee hearings. Dr. Buechner is a Phi Beta Kappa graduate of Amherst College and received his doctorate from Harvard University. He has served on the faculties of George Washington University, American University and George Mason University.

### **Dr. Michael F. Martin**

Dr. Martin joined the American Road and Transportation Builders Association in January 2000 after 15 years in academia and the private sector. Dr. Martin attended Michigan State University, where he received a BA in economics in 1979. In 1986, he completed his doctoral studies in economics at the University of Massachusetts in Amherst. Dr. Martin was a professor of economics at Tufts University and Colby College in the United States, as well as at Doshisha University in Japan and Hong Kong Baptist University. Between 1994 and 1998, Dr. Martin was the Assistant Chief Economist for the Hong Kong Trade Development Council (HKTDC), a private corporation devoted to the promotion of Hong Kong's international trade in goods and services.

### **Alison Premo Black**

Ms. Black joined the American Road & Transportation Builders Association in August 2000 as a Research Economist. In May 1999, Ms. Black graduated from the Johns Hopkins School of Advanced International Studies (SAIS) with an M.A. in International Economics and Latin American Studies. She graduated magna cum laude from Syracuse University in May 1996. She is currently pursuing a doctorate in economics at George Washington University. She is a member of the Phi Beta Kappa and Golden Key Honors Societies, and a recipient of the Syracuse Remembrance Scholarship. Prior to joining ARTBA, Ms. Black was an Analyst and Researcher in the Economic Section of the Embassy of the Republic of Korea. She has also worked as a Researcher in the Trade Unit of the Organization of American States (OAS) and with the regional group Latin American Economic System (SELA) in Caracas, Venezuela.

### **Dorota Tarnawska**

Ms. Tarnawska, a native of Poland, joined the American Road and Transportation Builders Association in October 2000. Prior to joining ARTBA, Ms. Tarnawska was the office manager and assistant to the president of Princeton Economic Research, Inc. (PERI). She also worked as a Polish language tutor, serving media correspondents and business executives. Ms. Tarnawska is a graduate of the Krakow Academy of Economics, majoring in econometrics and statistics, and the Krakow Academy of Pedagogics, majoring in pedagogics. After graduating, she worked for the Polish Internal Revenue Office, where she applied statistical methods for tax evaluation.

**Resolution to Request Federal Highway Administration to  
Reiterate Its Policy on the Use of  
Price Adjustment Contract Provisions**

WHEREAS, ARTBA supports an open and competitive bidding system for the awarding of federally-aided transportation project contracts; and

WHEREAS, this system relies on accurate price information for materials, supplies and services; and

WHEREAS, price volatility of construction materials and supplies such as asphalt, fuel, cement and steel can result in significant problems for contractors and suppliers in preparing realistic bids; and

WHEREAS this fact, recognized by the Federal Highway Administration (FHWA), led the agency to adopt policy officially encouraging the states to use price adjustment contract provisions, when appropriate, on federal-aid transportation project contracts and has developed technical guidance for the them on this issue to minimize the cost effects of price uncertainty; and

WHEREAS, FHWA policy states “price adjustment clauses may be invoked if: (a) the price trend is extremely volatile, (b) suppliers are unable to provide a price quotation for the usual term of the contract, (c) the price quote may be based on date of delivery or spot market conditions, (d) or shortages may be expected;” and

WHEREAS, current dramatic price volatility in the steel market is causing serious financial problems for contractors, steel fabricators and owners;

NOW THEREFORE, BE IT RESOLVED that the ARTBA Board of Directors asks the ARTBA staff to formally request in writing that the FHWA formally acknowledge the current steel market situation and its impact on federal-aid contracts and immediately provide written guidance to its state and division offices and all of the state transportation departments reiterating FHWA’s policy on, and support, of price adjustment clauses applicable to both current and future contracts.

Adopted February 24, 2004

March 3, 2004

The Honorable Mary Peters  
Administrator  
Federal Highway Administration  
Department of Transportation  
400 7<sup>th</sup> Street, S.W.  
Washington, DC 20590

Dear Administrator Peters:

As we have discussed over the past two weeks, many of our members are very concerned over the dramatic fluctuation in prices for steel plate and other steel products. According to steel consulting firm Meps International, the price of hot-rolled coil steel in the U.S. is up 66 percent this month from a recent low set last June. Nucor Corporation – the nation’s largest steel producer – recently announced that it would be increasing sheet steel base prices by about \$80 per ton for April – approximately a 20 percent increase over current prices. Some of the chief causes for these fluctuations include: China buying up most of the available scrap steel, consolidation within the domestic steel production industry, increased demand with the U.S. military, and increased price of coke for steel manufacturing.

As a result of these dramatic fluctuations, it has become increasingly difficult to accurately bid projects that include the use of steel products. Many steel producers are also adding surcharges after bids have been submitted and accepted, putting a tremendous financial burden on contractors and fabricators who have submitted these bids to state departments of transportation. This impacts existing contracts as well as future bids.

As you know, the Federal Highway Administration (FHWA) already has price adjustment clauses for fuel and certain paving materials. The policy states that “price adjustment clauses may be invoked if: the price trend is extremely volatile, suppliers are unable to provide a price quotation for the usual term of the typical contract, the price quote may be based on date of delivery or spot market conditions, or shortages may be expected.”

We believe all of these conditions currently exist in the steel market. The ARTBA Board of Directors passed the attached resolution February 24, 2004, urging FHWA to encourage state transportation departments to employ price escalation clauses on both existing and future contracts for federally-aided transportation projects. Please advise us of the action the agency will take in this regard. We stand ready to continue to provide any information that might assist the agency in its deliberation on this important matter. Your continued leadership on this issue is greatly appreciated.

Sincerely,

T. Peter Ruane  
President and C.E.O.

