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RESTORING AMERICA'S DEFENSE INDUSTRIAL BASE

HEARING

BEFORE THE

SUBCOMMITTEE ON MONETARY AND FISCAL POLICY

OF THE

JOINT ECONOMIC COMMITTEE

CONGRESS OF THE UNITED STATES

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RESTORING AMERICA'S DEFENSE INDUSTRIAL BASE

WEDNESDAY, SEPTEMBER 30, 1981

CONGRESS OF THE UNITED STATES,
SUBCOMMITTEE ON MONETARY AND FISCAL POLICY
OF THE JOINT ECONOMIC COMMITTEE,
Washington, D.C.

The subcommittee met, pursuant to notice, at 10:10 a.m., in room 357, Russell Senate Office Building, Hon. Roger W. Jepsen (chairman of the subcommittee) presiding.

Present: Senator Jepsen and Representative Brown.

Also present: Charles H. Bradford, assistant director, and Chris Frenze, professional staff member.

OPENING STATEMENT OF SENATOR JEPSEN, CHAIRMAN

Senator JEPSEN. The Subcommittee on Monetary and Fiscal Policy of the Joint Economic Committee will come to order.

The purpose of this hearing is to receive testimony on the heavy metal fabrication industry, which is an important sector of our defense industial base.

Present today are representatives from several companies of various sizes in the steel, shipbuilding, casting, forging, and parts manufacturing industries. They are: Mr. J. Moran, chairman of the board, the Carlton Machine Tool Co., Cincinnati, Ohio; Mr. C. L. French, president, National Steel and Shipbuilding Co., San Diego, Calif.; Mr. John Fogarty, president, Standard Steel Co., Burnham, Pa.; Mr. Ray Walk, president, Rayan Associates, Park Ridge, Ill.; Mr. Ian Westwood-Booth, president, the Midvale Co., Philadelphia, Pa.; and Mr. Joe Ryan, president, Delavan Corp., West Des Moines, Iowa.

The erosion of our industrial base and its effect on our ability to surge our defense production during mobilization has caused me a great deal of concern, as well as many of my colleagues, over the past few years. Fortunately, awareness of this problem is growing. During November of last year, the House Armed Services Committee held a series of hearings dealing with this very critical issue. In the report issued after these hearings, the committee stated:

> As the investigation proceeded, a shocking picture emerged: The picture of an industrial base crippled by declining productivity growth; aging facilities and machinery; shortages in critical materials; increasing lead times; skilled labor shortages; inflexible government contracting procedures; inadequate defense budgets; and burdensome government regulations and paperwork.

Not a very pretty picture.

Witness after witness testified before the panel that an erosion of U.S. industrial capability is occurring that, coupled with America's mushrooming dependence on foreign sources for minerals, is endangering our defense posture at its very foundations.

Since the time of the hearings, some progress has been made. The Department of Defense has embarked on the most comprehensive reassessment of its acquisition regulations in its history. The Congress has begun changing procurement laws, most notably with the recent legislation allowing the Defense Department to enter into multiyear contracts on large scale weapons programs.

The initiatives have not yet begun to remedy some of our most serious problems. Our base of suppliers and vendors continues to shrink. Shortages of skilled labor are projected into the year 2000. We continue to graduate fewer science and engineering personnel than we need to maintain our techonolgy base.

For that reason, I am initiating a series of hearings on industrial base problems and potential remedies. The purpose of the hearing today is threefold.

First, we need to assess in more detail than has previously been done the serious problems that face this particular sector of the industrial base.

Second, we need to assess the progress being made by the administration in their efforts to change policy and procedure to strengthen the industrial base.

Finally, we want to take the opportunity to solicit ideas on how to remedy the problems, especially those that fit within the administration's fiscal and economic policies.

Later this month, administration officials should have the opportunity to comment on the results of today's hearing, as well as the progress of their own industrial preparedness programs.

We need to address this issue, and we need to address it now. If we do not improve the efficiency and capacity of our defense industry at all levels as we increase the levels of defense spending, we will have more expensive weapons systems, not more weapons systems.

If we are to achieve effective deterrence in peacetime, and possess the capability to win war if deterrence fails, then we vitally need to preserve the surge capability during mobilization.

The American people have come to a consensus that our defense posture must be strengthened. To simply increase defense spending without addressing the fundamental issue of industrial preparedness will be a betrayal of this mandate.

In the coming months, I hope to focus on other aspects of this issue, such as the shortages of skilled labor and scientific and engineering personnel.

At this time I yield to Congressman Brown for any comments or opening statement that he has.

Opening Statement of Representative Brown

Representative Brown. Thank you very much.

I am pleased to join the chairman in welcoming this distinguished panel to discuss the problems confronting our defense industrial base. The health and vitality of the industries in this sector are of critical

importance both to our standard of living and to our ability to defend ourselves. In the present geopolitical situation arising from growing Soviet expansionism, the continued viability of our machine tool, forging, casting, steel, metal fabricating, and other defense-related industries has assumed immense significance.

To a considerable extent, many of the problems of the defense industrial base—low rates of real profits, lagging capital formation, declining productivity growth, and aging plant and equipment inventory—are faced by other sectors of our economy as well. Many of us on the Joint Economic Committee have repeatedly pointed out the relationship between mistaken Government policies and these serious problems. Since the election of a new administration and Congress, these wrong-headed policies are being substantially corrected, though it will take some time before these policy changes manifest themselves in an improved economic situation.

Federal tax policy, for example, has for years penalized savings and discouraged investment and capital formation, which are major determinants of productivity growth. In the inflationary environment of the last several years, the real tax take has been pushed almost to confiscatory levels, generating capital consumption and falling productivity. Although the Economic Recovery Act of 1981 will encourage saving, investment, and productivity and will provide for greatly accelerated capital cost recovery, it will undoubtedly take some time to correct the failed policies of the past.

In addition, inflationary monetary policies have wreaked havoc on balance sheets and income statements by generating illusory nominal profits and causing gross undercalculation of replacement costs. By lowering real profits and exhausting corporate saving, inflation has tended to encourage an overreliance on debt for capital investment, while forcing interest rates to record levels.

As a result of these factors, the earnings coverage of net payments by nonfinancial corporations has steadily deteriorated over the past 15 years. Real profits and cash flows must be improved to reverse the declining financial position of all too many businesses. The administration's advocacy of monetary restraint is contributing to the slowdown in inflation, laying the groundwork for lower interest rates, real capital formation, and productivity growth.

An area of Federal policy that still needs to be addressed concerns environmental laws, such as the Clean Air Act. The imposition of overstringent and uneconomical regulation of industrial emissions is crippling many companies and even forcing some out of business. I need not emphasize that the many so-called smokestack industries are defense related and essential to our national security. Nobody, of course, opposes clean air, but marginal improvements in air quality must be measured against excessive costs which undermine economic growth and job creation and the defense of the Nation which was mentioned specifically in the Constitution.

Finally, Federal defense planning can facilitate improved utilization of plant and equipment engaged in defense production. Certainly the recent movements toward multiyear contracting and more stability in the defense acquisition process are very positive steps.

Gentlemen, we are very happy to have you with us today. I am particularly pleased to welcome Mr. Jack Moran from my home State of Ohio and look forward to your testimony.

Senator JEPSEN. Thank you, Congressman Brown.

To structure this by time, we have six representatives here to testify from the various areas this morning. We want everybody to have adequate time. I would like to recommend that you try to contain your opening remarks to 10 minutes. You may have your prepared statement entered into the record and then summarize if you so desire, or you may read it in full, but it will be entered into the record in its entirety if you desire to capsulize or summarize.

I think, from a cursory review of the testimony, you are not all going to parallel your thoughts in your different areas, so I think that we will have the testimony individually starting with Mr. Ian Westwood-Booth first, and then the panel will be on a 5-minute rule basis; that is, 5 minutes for each of us to question that particular individual, and then we'll go on to the next one. At the end of all testimony and all questions, we will have one last round trip, so to speak, for those who have testified and who wish to add or summarize or have additional thoughts entered in the record, and then the same procedure following that with the members of the panel. I know there will be some members of the subcommittee who will be going in and out who have interest in this.

So welcome to Washington. We will proceed now with Ian J. Westwood-Booth. You may proceed.

STATEMENT OF IAN J. WESTWOOD-BOOTH, PRESIDENT, MIDVALE CO., PHILADELPHIA, PA.

Mr. WESTWOOD-BOOTH. Mr. Chairman and members of the subcommittee, I appreciate the opportunity to appear today to express my views on the present condition of the U.S. industrial preparedness base and its deficiencies.

All of industry, Government, and defense, are responsible for the decline of our industrial preparedness base. Industry in the last 20 years has been preoccupied with acquisitions and mergers.

Without getting into the details of the wisdom of acquisitions and mergers, I would like to refer to a paper which is a summary of my prepared statement. Money spent on mergers provides horizontal integration of industry. I firmly believe that such funds would serve industry and the country better if spent on research for medium- and long-term product development and in the continuous updating and modernization of production facilities. Industry is responsible for not using their profits to modernize their plants and equipment. Their first priority has erroneously been the "bottom line" and short-term gain for the stockholders. The resulting improvements would help to enhance our position in the changing world market. This would be accomplished by vertical integration and would benefit our industrial defense base.

DOD provides 10-year commitment for synfuels for Union Oil Co. of California. This enabled Union to build, at a cost of a half billion dollars, the first unit of an oil shale plant. This was a forward step by DOD to support new technology. The same approach should be used to bolster the industrial preparedness base.

Give DIPEC—Defense Industrial Plant Equipment Center—production equipment packages, known as PEP's, to vocational

training schools or the developing and Third World countries; replace them with new modern U.S.-built equipment.

If Congress would authorize DOD to undertake such a program as a part of the renewal of the U.S. industrial preparedness base, we would achieve the following results:

One: Provide the defense establishment with up-to-date computer numerically controlled equipment which can be deployed in industry for peacetime production purposes with recoverable costs to DOD. Also, this equipment can be used under surge and mobilization conditions. The legal vehicle exists under the present procurement act, but the will has to be there to do it.

Two: Restrictions should be put on the acquisition of any new equipment relating to defense, limiting the supply to U.S. manufacturers only. This will provide a substantial commercial shot in the arm to the U.S. equipment industry. It will increase the employment and the taxation base and reduce the high unemployment benefit costs that prevail in this country.

Three: This program will not only enhance the equipment manufacturers' technological development, it will also bolster the production base. This will act as an incentive to U.S. industry which has been acquiring foreign-made equipment with taxpayers' money. I do not wish to give you the impression that U.S. equipment manufacturers will build equipment at the same costs as the Japanese or East and West Europeans can. This may not be possible, as foreign manufacturers are subsidized by their governments in many ways to enhance their export business.

If DOD had a proviso in all their contracts that any U.S. defense contractor must buy American-made equipment, you would be surprised at the amount of money which would be recycled back into the U.S. economy. It does not require an act of Congress to achieve these results—DOD has the authority. I believe any other approach is inimical to this country's defense interests and our defense industrial base.

Four: Foundries were used as a scapegoat by EPA, 1,400 foundries in 10 years, because of their inability to carry the financial burden required to meet EPA standards and cope with the high cost of energy.

Five: Congress must also bear the blame for the deterioration of the defense industrial preparedness base in this country. Cost adjustments should have been passed on to the subcontractor. Congress should retain more qualified technical hands-on experts to affirm the viability of any given program of defense.

Six: Problems with the XM–1 tank—120-millimeter smoothbore gun-tubes cannot be made in the United States correctly because of the metallurgical problems involved. Because of this, 105-millimeter guns are going into XM–1 tanks. U.S. industry can solve these metallurgical gun-tube problems but it will require some basic changes in thinking in the defense establishment and in the defense committees of Congress. I believe that they have been technically myopic.

Seven: DOD allowed by Congress to buy 50–50 foreign. DOD's rationale is that it is economically prudent because the United States is saving money. MarAd and Congress have authorized U.S. subsidized shipowners to buy foreign-built ships. Congress and the State Department have neither addressed nor resolved the flag of convenience

issue. What about the economic impact to the U.S. economy and the ripple effect on jobs and suppliers, taxes, the morale of the country? Who in DOD is concerned about that? Who in Congress is concerned about that? Is it limited to the Congressmen and the Senators in the particular district that's being affected? This is a form of congressional myopia.

Eight: Are we going to telex to Japan for ships, to Germany for tank guns, to England for subs, and Japan and Korea for forgings? We cannot fight wars with dollar bills or with gold bars.

Nine: We must reindustrialize if we are to stay free. We need a new economic theory, a new industrial base, a national policy. Both Germany and Japan have a national industrial economic plan. It's backed by Government, mangement, and labor.

Ten: The Defense Procurement Act of 1950, as amended, can be interpreted and used more productively by exercising the exemption 16 of the defense acquisition regulation.

I believe that if contractors were reimbursed for the time spent preparing the DD–1519 forms it would substantially reduce the inaccuracies that prevail because of the contractors' present lack of time and effort.

All defense budget funds allocated to IPP, industrial preparedness planning, must be spent for its intended purpose.

In order to protect the industrial base, low-cost, long-term funds are needed to be available so that industry can comply with EPA requirements without sustaining the impact of these regulations. I do not feel that EPA requirements should be reduced in any manner and I reiterate—any manner.

I feel that Congress should create an ad hoc committee of hands-on technologists from industry to review the technical viability of any item or program before it becomes a contractual obligation for the Government.

To insure fair treatment for all contractors regarding contract cost adjustments, the Government agency involved should be directly responsible, not the prime contractor.

A renewed 100-percent buy American defense policy will enhance the capability of our industrial defense base and improve overall this country's economy.

It is inimical to the interest of this country to allow MarAd to allow the U.S. shipowner the right to purchase foreign-built ships, register them under the U.S. flag, and receive operating subsidies from the Maritime Administration.

To eliminate existing inaccuracies of this information that have been provided to DOD by industry, all submissions should include a signed affidavit by a corporate officer attesting to the accuracy of their planning data.

DOD should expand the manufacturing technology program to provide direct funding to the industry to modernize existing production equipment, specifically for the subcontracting supply base.

My suggestion to fund some of these improvements is to deposit the $1.5 billion alluded to by the Assistant Secretary of Defense in the Washington Post on August 5, 1981, into a reserve account with the Treasury. This would allow the Treasury to give low cost

loans or bank guarantees through DOD up to an amount of $2.5 billion by leveraging with sufficient reserve.

Mr. Chairman, members of the subcommittee, I believe that most of the suggestions can be implemented by Government within a 90-day period. Since many companies are on the brink of financial collapse, due in part to our recession and high interest rates, it's imperative that action be taken in an accelerated manner.

I would like to make one other comment. Gentlemen, I find Government officers' titles very confusing. It sometimes sounds like "I'm the assistant chief to the chief assistant." Maybe the subcommittee has a suggestion for this dilemma. Thank you.

[The prepared statement of Mr. Westwood-Booth follows:]

Prepared Statement of Ian J. Westwood-Booth

Mr. Chairman and Members of the Committee:

I appreciate the opportunity to appear today to express my views on the present condition of the U.S. industrial preparedness base ... and its deficiencies.

All of us, industry, government and defense are responsible for the decline of our industrial preparedness base. Industry in the last twenty years has been preoccupied with acquisitions and mergers.

I believe that the wisdom of acquisitions and mergers as a means of corporate growth and the funds expended on lawyers, brokers and money managers to effect this capital formation is questionable. When the mergers are completed, they have not enhanced the conditions of the industrial preparedness base at all; the primary result is the horizontal integration of industry.

I firmly believe that such funds would serve industry and the country better if spent on research for medium and long-term product development, and in the continuous updating and modernization of production facilities. Industry is responsible for not using their profits to modernize their plants and equipment. Their first priority has erroneously been the "bottom line" and short-term gain for the stockholders. The resulting improvements would help to enhance our position in the changing world market. This would be accomplished by vertical integration and would benefit our industrial defense base. A new metanoia is needed to bring us all together - otherwise, we will become a diminishing industrial nation and be acting as a large service center for other countries' products.

There is no economic problem more critical today than the level of interest rates. The monetarists and supply-side economists believe that free-floating interest rates will control inflation by adjusting the supply of money available. The main result of this policy has been the lack of capital intensive productivity for medium-heavy industry.

Other proposals enacted or under consideration by government are:

1. Corporate and personal tax cuts (reduces government revenue)
2. Reduced Federal spending
3. A return to the gold standard to take the pressure off the financial markets

Supposedly, these policies will provide the basis for a strong, non-inflationary, balanced budget by 1984.

I believe that these proposals, if enacted, will only increase the likelihood of a short-term pointed recession into 1982. I feel that a little Keynesian financial philosophy along with the administration's current proposals would be more beneficial to a faster economic recovery. Government financial assistance has proven very successful in the past. Lockheed is one case in point. This company repaid their $250 million loan ahead of schedule and provided the U.S. Treasury with a $29 million profit on the transaction. Lockheed today, is a healthy, viable company.

Current policy provides multi-year contracts with substantial advance payments against production schedules to the defense industry.

This is Keynesian in its act. However, it is not substantial enough to revitalize and sustain a modern defense industrial base. The U.S. has been unable to maintain a defense parity with the Soviet Union because Russia and its satellites allocate a high proportion of their gross national product to their defense production base.

In Business Week, June 1, 1981, an article, "Money for Synfuels May Soon Start to Flow"; a 10-year commitment by the Department of Defense (DOD) to buy up to 10,000 bbl. of diesel and jet fuel per day from the Union Oil Company of California, allowing Union Oil to build, at a cost of $500 million their first oil shale plant in Garfield County.

This is a forward step by defense to support new technology and at the same time secure an additional supply base for critical fuels. The same approach should and could be used to enhance the industrial preparedness base. Precedent has been established; now the Department of Defense (DOD) can freely use the same approach in other essential industries.

A continuous problem with the Department of Defense (DOD) is their approach and application in interpreting the Defense Procurement Act of 1950; as amended. Normal interpretation travels in one direction - which really is no interpretation - it is just acting out of habit; right, wrong, effective or ineffective.

This approach and attitude towards the legal interpretations of the Defense Procurement Act has confused and frustrated industry, as well as confusing the Department of Defense (DOD) representatives. *(See: Midvale's Navy RFP response, December 11, 1980.)

The Department of Defense (DOD) maintains a large storage and inventory of production equipment and machine tools in various areas of the country under the Defense Industrial Plant Equipment Center (DIPEC). These are called production equipment packages (PEP's).

This inventory is of World War II and Korean War vintage. Most of this stock is obsolete when compared to the state of the art of

industry. It should be replaced with modern equipment. This old equipment should be given to vocational training schools who demonstrate a need to use the equipment in conjunction with trade apprenticeship programs. If there are no takers, then the equipment should be disposed of through the State Department to developing and Third World countries.

If Congress would authorize DOD to undertake such a program as a part of the renewal of the U.S. industrial preparedness base, we would achieve the following results:

1. Provide the defense establishment with up-to-date computer numerically controlled equipment which can be deployed in industry for peacetime production purposes with recoverable costs to DOD. Also, this equipment can be used under surge and mobilization conditions. The legal vehicle exists under the present procurement act; but the will has to be there to do it.

2. Restrictions should be put on the acquisition of any new equipment relating to defense; limiting the supply to U.S. manufacturers only (with a proviso that, state-of-the-art technology must be used, and, if not available in the U.S., it must be acquired under license or through limited foreign sources). This will provide a substantial commercial shot in the arm to the U.S. equipment industry. It will increase the employment, and the taxation base, and reduce the high unemployment benefit costs that prevail in this country.

3. This program will not only enhance the equipment manufacturers' technological development, it will also bolster the production base. This will act as an incentive to U.S. industry which has been acquiring foreign-made equipment with taxpayers' money. I do not

wish to give you the impression that U.S. equipment manufacturers will build equipment at the same costs as the Japanese or East and West European's can. This may not be possible; as foreign manufacturers are subsidized by their governments in many ways to enhance their export business.

If the Department of Defense (DOD) had a proviso in all their contracts, that any U.S. defense contractor must buy American made equipment, you would be surprised at the amount of money which would be recycled back into the U.S. economy. It does not require an act of Congress to achieve these results. The Department of Defense (DOD) has the authority; I believe any other approach is inimical to this country's defense interests and our defense industrial base.

Another point that should be seriously considered by the Department of Defense (DOD) and Congress, is payment for contractors' time in industrial preparedness planning (IPP), for the following reasons:

1. A contractor's participation is voluntary and is a non-reimbursable cost burden. The administrative time devoted to these programs should be justified by payment, paying the contractor or extending the use of Exemption 16 of Defense Acquisition Regulation (DAR), by the contracting officers. Either or both approaches would make the program attractive and would clear up the inaccuracies of the DD1519 Form that prevails because of the contractors' present lack of time and effort. (These inaccuracies were pointed out in a GAO report on this program in 1979.)

2. Defense Contract Administration Services (DCAS) performs 93 percent of the Armed Services' Production Planning Officer's (ASPPO)

effort. When DCAS negotiates a schedule with a prime contractor which includes industrial preparedness measures (IMP's), they are almost always negated by the buying activity in DOD. The buying activity (command) then has to send the schedule to the Office of the Secretary of Defense (SD), who does not notify the Defense Contract Administration Services (DCAS), until six (6) months after the industrial preparedness measure was proposed. The reason is always the same; the Office of the Secretary of Defense (OSD) has "no funds available."

Many contractors have lost faith in these programs which establish a need, and then cannot follow through because of shortages or lack of funds. The contractors' attitude towards providing the items required in a given preparedness scenario, is that it cannot be essential if the emergency planning must be stiffled for lack of funds.

This system should be made more attractive to the participating contractors.

The contractors should have confidence in the integrity of the preparedness scenario, which is the basis for the preparation of surge and mobilization schedules.

There appears to be no real effort by the Office of the Secretary of Defense (OSD) to plan with the basic industries, upon which the entire program is dependent, i.e., the steel industry, the forge and foundries and non-ferrous metal industries. Failure to plan at this level in the procurement cycle renders the entire program meaningless.

On the 21st of September, 1981, the Secretary of Defense announced in a newscast interview that, "He feels confident that the Defense Department can reduce their 1983 budget by $4 billion, by entering into multi-year contracts for current defense weapon systems." I sincerely believe his statement to be true. However, I regret the lack of interest or concern by the Defense Department officials until very recently, to strengthen the subcontractor base. These are the companies who are responsible for the key pacing items required for most weapon system contracts.

I am sure you are all aware of the permanent shutdowns that have occurred in the metals industry over the past five (5) years; large components of industry have disappeared. This is partly due to the lack of support by the Department of Defense and other Government Agencies. In the case of the foundry industry, I believe that the over zealousness of the Federal Environmental Protection Agency's (EPA) administrators is partially responsible for many closings.

It is ironic that the percentage of pollutants emitted by the foundry industry is less than once percent of the total pollutants in our air. This industry, for real or implied political reasons was singled out as the major culprit. It was easier for the government to set an environmental impact example with this industry, as it is a philosophically fragmented corporate sector of small, family-owned establishments.

I advocate a clean environment. I believe very strongly in the principles governing and those mandated by Congress under which the Federal Environmental Protection Agency (EPA) operates. I also feel

that industries composed of small businesses such as foundries should have been afforded long-term, low cost money, by the government to enable them to meet the EPA clean air requirements with minimal economic impact. Any company not requiring help as a part of a concerted effort to clean up the environment should have been given the option to pay their own way or close.

The government did not handle this wisely. It effectively forced these companies to the wall and ultimately out of business. Now these jobs and trade are handled by foreign countries.

Who can correct this industrial dilemma!! CONGRESS.

The U.S. Chamber of Commerce believes that the cure-all for meeting EPA requirements is a healthy economy. I remember our healthy economy a few years back - it did not make much difference - medium and small industry had a hard time handling the economic impact then, and today, it is still struggling financially to meet these requirements. Industry must be provided with adequate financial assistance.

It is my opinion, and the opinion of many other industrialists and government officials with whom I have spoken, that Congress also must bear part of the blame for the deterioration of our industrial preparedness base. The various Defense Committees of Congress and their members, who are responsible for legislating programs into existence and out of existence, have lost some of their objectivity. It has become a clubby atmosphere where intercourse is restricted between two dozen or more prime defense contractors and senior members of the defense establishment (DOD).

Congress has neither sought out, nor retained, impartial, qualified, technical experts in their fields from industry, who should be used

on an ad hoc basis to review the hands-on-technical aspects of the various defense production programs. It has relied on the sole word of the Defense Department and the prime contractors that everything is under control. This is a contributing cause to the depleted condition of our industrial preparedness base.

Up to this year, it was virtually impossible for a subcontractor to receive a cost adjustment from the prime contractors even though DOD allowed such adjustments. Some prime subcontractors did receive their prorated share from the prime contractors, but it never went beyond. It is this type of coziness that has prevailed over the years; Congress has never questioned or addressed this problem and the Department of Defense (DOD) has allowed it to continue.

If Congress had maintained greater objectivity, and showed more concern for a thorough technical review of these defense programs, it might not have had to face the technical and financial crisis now encountered with the M-1 tank program.

Our military planners were WOWED into believing that the German 120 mm. smooth bore gun was the best way to proceed politically and technically, because NATO was planning to adopt the 120 mm. gun. The technical merits of the gas turbine power-drive system are highly questionable in its present configuration, and have made the M-1 production costs economically unviable in its present form. The West Germans have not kept to their agreement to purchase the U.S. made turbine power-drive system and are now using a West German built diesel engine drive. This is another case of foreign intervention into the U.S. industrial base which affects the economic viability of a defense related program.

The 120 mm. smooth bore gun cannot be manufactured economically in this country due to the related metallurgical problems involved. This forced the Army to rely on foreign suppliers and compels the Army to field the M-1 tank with a 105 mm. current production gun, as used on the M-60 tank. The remainder of the XM1 tank is technically good and equal to anything being built by our allies or our adversaries.

This weapons system started out at $600,000 per unit and now costs more than $2 million per unit. This increase is due in part to a lack of independent, hands-on technological review outside of the defense system, and, due in part to international political considerations, that still have not been addressed in real terms. All defense program problems relating to guns and other integrated weapons systems can be solved with the technology and expertise available in the U.S. However, it will require some changes in the defense establishment and the Congressional defense committee's thinking, which I believe are technically myopic; if not intentionally, by default.

I only cite the XM-1 as one example of many problems relating to defense systems production.

I am an advocate for a strong U.S. defense base, and under certain circumstances support foreign co-manufacturing agreements to protect the U.S. commercial interests as well as our allies. Unfortunately, the Department of Defense (DOD) has a mandate from Congress enabling them to procure up to 50 percent of all defense-related items from foreign sources. Congress should re-establish the 100 percent buy American requirement; only permitting foreign procurement

under co-manufacturing circumstances; all other foreign components should be purchased through a closely monitored congressional waiver.

Administration and Defense officials and some Congressional members have been heard publically and privately, attempting to justify department of Defense's (DOD) right to foreign sourcing, on the basis that it is economically prudent. The country is saving money, thereby allowing them to procure more weapons for the same capital costs. I rarely hear defense officials talk with enthusiasm about the social/economic impact and the financial ripple effect of defense dollars being spent within the U.S. The "body politic" only acts when their state or communities are socially and economically threatened by possible changes of their state defense installations.

This always gets national press coverage. The body politic rises to the occasion with the media; letting the electorate know how much they fought for these jobs for their communities. I find nothing wrong with helping to land a major contract for one's community. This is an elected official's job. I would feel more comfortable hearing congressional and defense officials rallying to help the many subcontractors who are in real need. Unless a sole source condition exists, DOD will not come forward with economic help.

Congress should move to establish an independent board of engineers whose areas of specialty can be called upon, on a temporary assignment basis, to serve and advise Congressional Committees. This board could be set up along the lines of the American Arbitration Association, drawing hands-on specialists from all areas of the 'state of the art' in their respective industries.

These people could be given sufficient notice and be called upon, by any committee in Congress. They would be obligated to review within their speciality, new items or systems before the manufacturing contract becomes a contract reality. No constraints by industry on their employees who are called to advise.

The role of these specialists would be to review, impartially, the technical aspects of the project, not to provide technology. This procedure would eliminate any conflict of interest between the employee and the employer and their duty to their country.* (These specialists would all be security-cleared.) Such specialists would work with the full congressional committee's authority, in all areas in which they have proven expertise. They would submit their findings orally and in writing to a technical qualified representative from Congress. This representative would be responsible for coordinating these findings and submitting them to the appropriate committee members and government agencies for their review before implementation is permitted.

I have been told many times, that in Congress, anybody below a super grade level in government, is myopic, and therefore, very difficult to communicate with from a congressional point of view. Let me point out the myopicness of Congress regarding Soviet preparedness and recently-passed legislation.

At the present time Russia has more forging capability than the rest of the free world combined (this is just one example). In addition, they are increasing this capacity by one-third more.

(Qualified source, April 5, 1981)

The Soviet bloc is developing its product capability in the following areas:

1. Large naval build-up program for both the navy and merchant marine.
2. Nuclear package power plants for domestic use and Second and Third World countries.
3. Extra large forgings for the Russian Space Program.
4. Russian Army tank and Howitzer programs (120 mm, 150 mm, 170 mm to 8")
5. Metallurgical R&D Forging Development Program.
6. New development and construction underway in large closed die forging capacity - four times greater then U.S. capability.

Russian Battleship Size Ship

According to British and European sources (Feb. 81) the Russians have begun a battleship-size construction program. According to the same European source, the Russian ships will outrun any major U.S. naval vessel.

Russian Submarine Problem

ALFA class - Titanium construction - much larger displacement than U.S. Tridents - can operate at greater depths, and are faster.

Russian T-80 Tank

1. This is Russia's fourth new tank in 20 years.
2. Qualified sources reported recently that work is being done in Austria on forged gun blanks to produce

170 mm I.D. gun tubes. It was their opinion that the Russians are trying to develop a lightweight tube of 170 mm for their newest tanks. These sources said that these were not Howitzer blanks but were in their opinion, tank tubes with sleeve down capabilities.

3. Russian T-64's and T-72's

A high U.S. DOD source said that both the T-64 and T-72 were superior to the U.S. M-60 and that the TOW antitank missile was incapable of penetrating either of these tanks. The source opinioned that the new TOW-Z might be incapable of stopping the T-80 Russian tank.

It is believed that Russian tanks will be able to take a hit on their frontal armor and keep moving.
(Qualified source)

Cuban Sub Base

Russia has built a well-equipped submarine base at Cienfuegos, Cuba. Russian subs have been spotted by the U.S. Navy being towed to Cuba.

Grenada Air Base

Cuban workers and Russian engineers have built a new airfield on the Island of Grenada in the Caribbean. The runways can accommodate any size of plane used by either Russia or the U.S.

Heavy Manufacturing

Russia has seven (7) fully integrated large open die forges in place and three (3) more under construction, the U.S. has none.

Bulgaria - Bulgaria has under construction a medium/heavy forge on order from West Germany. This is part of a $480 million dollar equipment package for Bulgaria.

Rumania - Rumania has a 16,000 ton open die fully integrated forge press under construction. This is a part of a new medium-heavy fully integrated forge facility.

The House recently attached a rider to the budget bill, allowing U.S. flag registered shipowners to build vessels in foreign shipyards. This provision allows the U.S. shipowner (once $100 million of maritime construction subsidies have been allocated towards new U.S. construction), the right to purchase foreign built ships, register them under the U.S. flag and receive operating subsidies from the Maritime Administration.

Gentlemen, it only takes one ship to absorb the total construction subsidy; consequently, U.S. shipowners have carte blanche to trade with the foreign shipyards. These operating subsidies to the U.S. shipowner are provided by the Maritime Administration at a substantial cost to the U.S. taxpayer. Who are the losers - labor and industry.

This little Maritime goody to the U.S. shipowners and the maritime unions sailed through both houses of Congress. I doubt if the economic impact of this legislation was realized at the time of passage. Who is hurt? Labor, the shipyards, the component supplier, the steel industry and many thousands of vendors involved. Maritime (MARAD) programs since 1936 have been buy American; 100 percent American content unless otherwise authorized, through a congressional

waiver. Now the Maritime Administration (MARAD) has attempted to align itself with the Department of Defense in order to reduce the Buy American requirement to 50 percent. This creates another potential iniquity between the U.S. shipyard and the U.S. suppliers. It would permit the U.S. shipyard to build the ship but allow the U.S. flag operator (owner) with the concurrence of the shipyard to procure everything that goes into the hull from a foreign source. So who is hurt now? The U.S. supply industry to the shipyards.

During the markup sessions for the 1981 fiscal year regarding Maritime authorization funds, both the Senate Commerce Committee and the House Merchant Marine and Fisheries Committee did more to redirect maritime policy than Government has done in the last twenty years.

The Senate Committee eliminated the construction-differential-subsidy (CDS) monies and the House Committee voted to allow, under given conditions, U.S. subsidized operators to build in foreign shipyards through September 30, 1983. This move from past policy has established a far-reaching precedent with ominous consequences. These changes break a forty-five (45) year tie between the construction-differential-subsidy funds(CDS) and the operating-differential-subsidy (ODS) funds.

The U.S. shipowners have said that they will be unable to fulfill their sixty (60) vessel replacement requirements through 1986 in U.S. shipyards. This is nonsense. There are many shipyards in this country that have the capacity to handle all of their requirements.

I am sure that the U.S. Navy did not plan on being the panacea to the U.S. shipbuilding industry; even though some Administration officials and congressional members wish to believe this.

This bill has a deadline on the eligibility to build ships in a foreign yard; there is a degree of oversight by the Secretary of Transportation, regarding the consequences of this situation on the nation's shipyard mobilization base. Once the 'Buy American' requirement is eliminated, it will never return.

These actions have a much greater negative economic impact than just the shipyards. It hurts U.S. labor and the entire supply industry, which in turn further jeopardizes the industrial preparedness base.

This is a comedy of errors. THERE ARE A LOT OF PEOPLE IN GOVERNMENT SUFFERING FROM MYOPIA AT THE POLICY LEVELS.

As critical as I sound towards the Maritime Administration, I wish to compliment them on their thoroughness in industrial preparedness planning (IPP) and their extensive knowledge of shipbuilding and design. This is due in part to the Buy American requirement under the Merchant Naval Act of 1936, as amended, requiring consistent industrial capacity and reviews.

All production capacity reports from U.S. shipyards and suppliers reviewed by the Maritime Administration under industrial preparedness planning requirements are legally binding documents signed by an officer of each company involved. This requirement does not exist for contractors and vendors dealing with the Department of Defense (DOD).

All branches of the armed services should address themselves to the sub-systems and pacing item suppliers; in fact, a lot of the data they have on industrial preparedness capacity has been provided by the sales department of the companies involved, and is in most cases totally inaccurate. It would be wiser for the Department of Defense (DOD) to have a responsible corporate officer sign an affidavit.* (Please note our RFP response to the Navy dated December 11, 1980.)

Congress and the Administration should also take a very close look at the 'flag-of-convenience' issue. Up to now, such studies of the essential facts have not taken place. The issue is primarily a domestic policy matter, involving economic and national defense considerations. The National Conference on Trade and Development in Geneva is hardly the place to formulate domestic policy.

It is ludicrous to allow the geopolitical considerations that surfaced in Geneva to determine this country's 'flags-of-convenience' policy. Our policy should be established solely on U.S. national security-considerations and economic self-interest, as this too affects our industrial preparedness base.

The U.S. Merchant Marine is effectively a U.S. Naval auxiliary and should fulfill its role in this manner. The sooner Congress and the Administration realize Maritime's real role in the defense industrial base, the closer we shall come to establishing a much needed domestic shipbuilding program for the merchantmen.

The cost differential between U.S. made and foreign made products, favors the foreign source; but when you factor back into this differential all levels of taxation (federal, state and community),

and the financial ripple effect of the total dollars being spent in the U.S., the end result economically is in favor of "Buy American" not "foreign".

There are other social, political and economic considerations beyond the cost differentials that would further enhance these assertions.

DOD can procure weapon systems and components through open competition or through limited competition (exemption 16 of DAR, this has been a tradition with the Navy for many years). Limited competition should be used where there are only a handful of manufacturers capable of producing the required items instead of inviting general competition. To bid in an area where you have limited capacity, requires a larger capital investment by those companies who do not possess such capacity when considering their bids.

This creates two distinct capital investment levels which will affect unit pricing to the Department of Defense (DOD). Companies who have the basic infrastructure to establish improved capability should be helped by the Department of Defense (DOD). This will keep capital investment requirements at a minimum, by providing qualified contractors and vendors with adequate financial guarantees or through multi-year contracting; this needs to be enough to cover the increased financial burden incurred to improve, update or modernize their production base.

There should be an expanded Manufacturing Technology Program. The current program as defined in the 1950 Defense Procurement Act, as amended, should be improved, providing direct funding to industry,

for the modernization of existing production equipment. This program particularly applies to the subcontracting supply base. DOD is too preoccupied with fabrication - they have forgotten the subcontractors who provide the pacing items to the prime contractors. More money should be spent in the basic metal forming areas.

Assistant Secretary of Defense, Ikle, stated on August 5, 1981 in the Washington Post his desire for DOD to spend half a billion dollars on improving the industrial defense preparedness base. This seemingly expansive measure will help the capital intensive industry in the same way that a band aid would help during heart surgery.

I recommend DOD's depositing this money with the U.S. Treasury into a reserve imprest account. This would be on deposit, interest bearing, and shall act as a 20% risk reserve. This way, the Defense Department through the Treasury can give low cost loans, or bank guarantees up to an amount of 2-1/2 billion dollars. The Treasury Department should charge a handling fee for these guarantees. As these funds are repaid, they should be recycled into a permanent fund for maintaining a modern industrial defense base.

There is a need to re-educate defense planners and program directors - bringing to their attention the synergism between the U.S. industrial base capacity and the requirements of the national security base.

Senator JEPSEN. Thank you. To sort of capsulize, to make sure I'm on the right track, if I can put it in a sentence or two—which is very dangerous—you recommended that the DOD should take a more active role to aid the industrial base with loan guarantee subsidies and so forth.

Mr. WESTWOOD-BOOTH. That is correct, Mr. Chairman.

Senator JEPSEN. And you also advocate a 100-percent buy-American policy for the DOD?

Mr. WESTWOOD-BOOTH. Except where comanufacturing agreements are involved or by special congressional waiver. I feel very strongly about that, Senator, because I believe that a 100-percent buy-American policy is only relating to the defense industry and taxpayers' dollars being spent. It's not a commercial arena. The commercial arena should stay intact for private enterprise with no restriction.

Senator JEPSEN. You're representing a company that closed down a number of years ago and you have wanted to reopen and modernize this facility as I understand.

Mr. WESTWOOD-BOOTH. That's correct.

Senator JEPSEN. How much of the previous business at the time of closing went overseas and has remained there?

Mr. WESTWOOD-BOOTH. Eighty percent of Midvale's previous business went to Japan and 20 percent was scattered among other U.S. competition.

Senator JEPSEN. Why are German and Japanese forging industries more cost effective than the United States?

Mr. WESTWOOD-BOOTH. Two reasons. They have invested heavily with low-cost loans from their respective governments, particularly the Japanese, in heavy modern economically viable installations. They also have spent a lot of money on metallurgical development technology and machine tool technology. They are into the latest type of machine tools, CNC.

Unfortunately, our industry has not refurbished to any degree. There are a handful of small forgers that are modern. The rest of them are economically and technically unviable by Russian, Japanese or West German standards.

Senator JEPSEN. What capacity do we have in the open dye and closed dye forging industry and how does it compare with the Soviet Union?

Mr. WESTWOOD-BOOTH. The capacity in the medium-heavy forging industry in this country economically and technically being viable is nil. The Soviet Union has already seven large fully integrated modern open dye and closed dye forging facilities in operation and three more under construction. The seven that operate now can outproduce the whole Western World put together in any aspect.

Senator JEPSEN. What advances have been made by the Soviet Union in industry which makes some of their equipment superior to ours?

Mr. WESTWOOD-BOOTH. Ironically, it hasn't been the Soviet development in the forging equipment that's given them the advance. It's the development and manufacture of equipment that German and Britain and Japan have provided the Soviets which the Soviets have been able to expand on, improve, and utilize at a very high efficiency rate.

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The only drawback to the Soviet position is their own management and political system which pulls them down. The capacity is there.

Senator JEPSEN. Finally, what's special about the titanium hull of of the Soviet submarines? Do we have the technology to do the same thing with our submarines?

Mr. WESTWOOD-BOOTH. Quite frankly, we don't have the technology. We are playing with the technology now, as is the British Navy which may be a few years ahead of this country. The titanium submarine hull requires very heavy forgings.

Senator JEPSEN. What's special about that?

Mr. WESTWOOD-BOOTH. The specialty of the ALFA class submarine is that it can outdive, outrun, and go down to a far greater depth and is totally silent and therefore undetectible. We cannot and do not have a vessel currently in our own arsenal that can get down to the depths or the speeds that this submarine can make.

Senator JEPSEN. And is that primarily due to the titanium hull?

Mr. WESTWOOD-BOOTH. Some to the power system, but mostly due to the hull construction because of the exceedingly high forces that are put on the hull at great depths at which it can travel.

Senator JEPSEN. Thank you. Congressman Brown.

Representative BROWN. Thank you, Mr. Chairman.

Two or three threads seem to run through your conversation with us. First, you talk about inaccurate information. Could you elaborate a little bit on that? Inaccurate planning base you mentioned in item 11.2. You mentioned it again a little further in your prepared statement.

Mr. WESTWOOD-BOOTH. Yes, Congressman. I was referring to the IPP planning and the 1,519 forms that industry has to fill out.

One of the problems that has caused this inaccuracy is the time it takes industry and the manpower of industry to help the IPP as proper planners from defense to put into place the report they need to justify capacity which the contractor has and DOD needs. It sometimes takes, 1, 2, or 3 weeks to put these things into place. It's time consuming and it's costly to the contractor and at the end of it it normally takes 6 months to find out that there is no money to fund it. So therefore the contractors have spent a lot of money, wasted a lot of time, and have an unfunded situation that DOD says is a requirement. So therefore, the effect of DOD's requirement is a loss of faith of industry because they never implement. This seems to be the history.

Representative BROWN. It seems to me that that infers a little Government bureaucracy, and perhaps the gathering of information which is either not essential or not accurate for a program that doesn't get funded. I gather that's what you're telling me.

Mr. WESTWOOD-BOOTH. Congressman, the directive goes out to the command level and it is processed by the command level representatives from the logistics command who come out to industry and say, "We require this data. Would you be part of the IPP Planning?" The contractor would like to participate in DOD funding and DOD business. He spends the time and at the end of it no money from DOD. Now the money in many of the defense budgets over the last few years has been allocated to industrial preparedness improvement. That money has been used for other pet projects in defense. It has not been placed where it was needed.

Representative BROWN. Let's go back to the question of the technical viability. You refer to that in item No. 5 and I think you made reference to it some place else, as to whether or not some of the things that we decided we ought to have work. I think early on in your prepared statement you referred to it in a couple places as of some significance. Are we establishing technical requirements that are (a) either to high for American capacity to produce, or (b) too high for the capacity of the American military system to maintain and operate?

Mr. WESTWOOD-BOOTH. I don't think either applies.

When you refer to technical viability, I assume you are referring to No. 5, which relates to cost adjustment in the contract.

Representative BROWN. Well, you had a couple of fives in here. You talk about five under 11, and then you talk about it in item five about hands-on experts to affirm the viability of any given program. That is the first five.

Mr. WESTWOOD-BOOTH. Very well, Congressman. Now I know where you are.

The reason I am recommending an ad hoc technical committee of hands-on technologists—those are the people outside of industry that are in the production loop that know what is going on within the defense industry even though they might be called by Congress—I think the Congress should have an independent form other than the National Science Foundation or some of the other elevated foundations to make some judgment calls on viability by specialists of industry; not to advise on technological change if a system or item is not working and producing by these experts' opinions. I think you might have saved yourselves and the country a lot of cost-overruns, and particularly a lot of cost in the XM–1 tank program which I think is one of the prime problems in defense spending currently, and yet I don't believe you can back off the expenditure now because we're too deep in it. We would have to find a way to modernize it to improve it. But we could have caught those errors by having the right people from industry there.

Representative BROWN. I'm a little startled at your item four, and that is that you don't want to change any EPA requirements; you just want to provide Federal funding to cover them.

Mr. WESTWOOD-BOOTH. Well, I think that if you start to gut, as I heard on the television newscast this morning the Reagan administration is attempting to gut the EPA laws——

Representative BROWN. CBS, that's their version.

Mr. WESTWOOD-BOOTH. Well, at least I heard the comment. I'll leave it at that. I don't think it serves any purpose as far as this country is concerned. We've got enough smog as it is that we haven't been able to eliminate. We have enough pollution that we have not been able to eliminate on the land. I would think that it would be more to our interest for Government to make 4.5-percent or 5-percent low-cost 20-year loans, reduce the economic impact of the improvements that are required, and have us do them. The country will be much better off and my children's generation and their grandchildren and so on will not regret what we do.

Representative BROWN. Then we also ought to subsidize the purchase of housing so that people can have houses? We also ought to

subsidize everything you can think of, including the rebuilding of the defense industry. Now if we do all that, where do the funds come from?

Mr. WESTWOOD-BOOTH. Well, Congressman, let me back up. All the large expenditures that have been made to defense with the prime contractors—the primes have done very well and they continue to do well and they lobby for what they get and they handle it exceedingly well. The subs that have been working for the primes over many years have been hounded, pilloried and put to the wall by the primes to maintain a cost level, and when utility costs or material costs appreciably rise and they go back to the prime for a price adjustment, it isn't available. They can't do it. Those adjustments that are filed with the prime are then submitted to DOD who in turn gets the price adjustment from the Defense Department but it retains it in the prime contractor's basket. It does not distribute it to the subcontractors and that has forced a lot of industries out of business. They could not sustain DOD business under those terms.

Representative BROWN. Let me just conclude my 5 minutes with this comment. I don't mean to fault your expression of concern because I also share many of those concerns with you. I must say that I'm not sure about the method by which we, under the Reagan administration, have elected to handle the problem. You say we need a new economic theory, an industrial base plan, and a national policy. I think we have a national policy. I think that it is now designed to do some of these things for increased depreciation allowances and let the market make some determinations here that we have in the past been determining at the bureaucratic level.

You last comment is certainly appropriate. The assistant chief to the chief assistant is usually the guy who makes the determination. It isn't done by Congress or Secretary Weinburger. It's done by somebody in the bureaucracy who says this works and this doesn't work. If we're going to set up the EPA system and provide the funding or provide the funding to the various contractors as to which ought to do it, we'll have a lot of assistant chiefs to chief assistants who will be making those decisions, and that scares the hell out of me.

Mr. WESTWOOD-BOOTH. I agree with you, Congressman, but there's one comment I would like to make. That is, as far as DOD is concerned, the discussion of industry is multiyear contracting. That is the new force in defense. Multiyear contracting is just as easy in the thinking as giving a loan guarantee to industry to get its own backyard in order. I don't see the difference. It's just putting it from one side of the ledger to the other side of the ledger because the advanced payments on progress schedules are the same as giving a loan guarantee because a loan guarantee, unless the company goes into default, is never called.

Representative BROWN. I think the depreciation approach is a much better or a much different system, literally a different system than the approach of loan guarantees which grants low interest rate loans to selected companies, where the decision is made as to who gets it and who doesn't. It seems to me it's more of a system of confidence in you than it is a system of confidence in us, and I have been part of "us" for so long that I have lost a lot of confidence in "us."

Mr. WESTWOOD-BOOTH. The depreciation schedules are part of the law and are very helpful and will serve industry in the long term. In the short term there are many industries that cannot take advantage of it and with the interest rates at 19.5 percent—the prime rate—there are very few industries that are going into any major capital expenditures at this time and I don't see a change coming where the interest rates will lessen down to the levels that we once had, below 10 percent, in the long term. I see us heading for a recession because of the high interest rates which are the root cause of this recession, not the monetary policy and supply side thinking. Interest rates are what makes industry function. If you pay 20 percent, you've got to have a very big monetary profit to cover those type of interest rates. It just isn't in the cards in our industry.

Representative BROWN. Thank you. I think the area of the regulatory reform we have been talking about and this administration is talking about will truly be a giant step in the right direction. We all want clean air and clean water, healthy and safe working conditions. I don't know anybody who doesn't. And you have a pendulum swing in that area to a point that EPA, instead of meaning the Environmental Protection Agency means end production altogether in some cases. I think all of us are concerned with the setting of goals for our children and their children by the way of all the good things in quality. It's just a matter of regaining the perspective of the "can-do" attitude in this country. We can do both. That's the point. And we shouldn't have to be brought to our knees.

Mr. WESTWOOD-BOOTH. Mr. Chairman, I don't advocate the case that the EPA continue in the manner in which it has been functioning for the past 5 years. I'm only advocating the continuation of the laws and the meaning of why EPA was established in the first place, not the overzealousness of administrators.

Senator JEPSEN. Excellent. That's what I thought you meant.

Mr. WESTWOOD-BOOTH. Yes; I'd like to state that.

Senator JEPSEN. It's not the end results and the goals. We all want those. It's the way most of these things have been administered.

Mr. WESTWOOD-BOOTH. That's correct.

Senator JEPSEN. Joseph Ryan, president of Delavan Corp. of West Des Moines, Iowa. Joe, I'm glad to see you.

STATEMENT OF JOSEPH RYAN, PRESIDENT, DELAVAN CORP., WEST DES MOINES, IOWA

Mr. RYAN. Thank you, Mr. Chairman. Congressman Brown, it's a great pleasure to be with you. I have been looking forward to this opportunity, I might add, for quite some while.

Perhaps I could give a brief background on our firm. We are almost 40 years old. We are in the precision spray nozzle and atomization business basically, which finds its way into both commercial plants as well as the military. Much of our spray technology is devoted to products for aircraft gas turbine engines, agriculture, and other commerce. We do about $40 million in sales and we employ about 700 people, about 350 of whom are located at our headquarters in West Des Moines, Iowa.

Our company is designed—oriented to do a lot of state-of-the-art engineering, both for our own purposes and for some of the major research agencies in the United States: Stanford Research, and so on and so forth.

For the purpose of my testimony, I will confine it to our fuel injection systems, and point out, I think, that what we see there is pretty symptomatic of what we find in some of the other industries that we serve. We have been in the gas turbine engine business a long time, both as a prime contractor for the military, in some cases on spare parts, and also as a first tier subcontractor to the major jet engine firms, such as Pratt, GE, and so on and so forth, on the original equipment builds.

There's been a great deal written, and I don't think we need to belabor the point, particularly about the shrinkage of the American industrial base as it relates to defense production. And I might add, Mr. Chairman, that we are certainly concerned at our company—and really not as much from a business standpoint than just attitudinally as Americans who are terribly concerned about what happens—and I hope it never does—if world war III comes along.

You share that concern, and we appreciate the opportunity to be here and express ourselves.

We have been in the business long enough to see a great deal of sawtooth effect, both in our production, and also on our bottom line. We want to support the military in every way we can. Obviously, we also have to protect the interest of our shareholders and perhaps of even more importance, the job security of our employees.

If our production bounces around at the whim of politics perhaps or the funding of the military, there's no continuity that we can hang our hats on. So basically, tracing back—and in my prepared statement, there's a chart that goes with it—in 1957, we were devoting a little over 80 percent of our capacity to miliary business. In our full year just previous, which would be 1980, that's shrunk now to 18 percent. That has not been happenstance. I must admit that this has been by design because for a company of our size, we absolutely cannot take the financial risk because of the reasons I mentioned before to commit too much of our capacity to the military.

It's a shame but that's the way it is. So we are saying—and we are very growth oriented—that as we project our growth as we look at our profitability, as we try and predict the needs of our customers, we find it much more difficult to do that in Government contracting than we do in the commercial arena.

I certainly agree with you, Mr. Chairman, that nothing is to be served by complaining, protesting, and voting no. These are some positive solutions. I have some recommendations which, bear in mind, are from a smaller company and perhaps not as broad as some, but certainly some things that would help us out and encourage us to do more work with the Government.

I think it's been recognized by DOD for quite some time that dual sourcing is of benefit. Now oddly enough, I think a number of people in Government feel that the contractor, such as ourselves, would prefer sole source. Frankly, I don't because in a lot of cases, from a practical, day-to-day production standpoint, if you've got

sole source work, it's difficult to encourage your people to improve the state of the art. There's no substitute for competition. I believe it and I'd like to see more of it.

However, one of the points in my prepared statement indicates that even though the DOD promotes dual sourcing, they only look to the prime contractor and put the pressure on at that level. The result of this has been that the prime contractors are doing the design work that we used to do and they come up with something that neither ourselves nor any of our competitors can build properly. The resulting overdesign is costly. There's no opportunity for value engineering or design to cost. We often see designs that neither we nor our competitors can build very successfully or price attractively.

In addition—and it's been a terrible concern—the exotic alloys which are being used are produced overseas and give us tremendous volatility in cost. We feel that the military should encourage the prime contractors to go to their first- and second-tier subs and let the people who know how to design these products do so—we can meet the functional criteria—let the people who know how to do it, do it, and back off a little from the insistence that all the dual sourcing be invested right in the prime.

Longer term contracts have been mentioned. I think that will help and I think you can see the effect of a single year in our sawtooth curve. We're up and down. We're perfectly willing to negotiate 2-, 3-, 4-, or 5-year contracts. We have agreed to escalators. We are perfectly willing to agree to contain the labor content in our labor contracts. We cannot control the cost of our raw materials. A company of our size cannot control the price of titanium, cobalt, or whatever. Long-term contracting, I think, will help and certainly would encourage us.

We have other cases in the dual source arena where some of the major engine builders come to DOD and also to the Congress and indicate that their engine programs are all dual sourced. Your FF–16 fighter is supposed to be in that category on the engine at least. That's a mirage. The primes in some cases are only dual sourcing on paper. The second contractor never has a chance to build a part and can't keep up with the state of the art and that I think could be corrected by a policy shift at DOD. When that happens there is no competitive bidding. The prime contractor controls all the spare part sales, which I don't agree with. The second and nonproducing source never gets a chance to create a competitive environment nor to stay up with the state of the art and finally the small vendor gets discouraged and doesn't participate. That has happened many times and it's happened to us whereby we have finally said that's enough, it's not worth putting the design money in there if you can't get enough business.

Value engineering is something that the military talks about considerably. We get a letter twice a year asking for suggestions. Execution is the problem, no followthrough. This is a very fertile area for a lot of intense activity. There are cost reductions that are possible if there's enough continuity in the program.

Contracting out has been discussed on a national level considerably. Our experience—and we work with the military to prepare and overhaul depots all the time—is that we see a lot of scrappage and waste and so on and so forth and yet I must compliment the military. They have built some tremendous forts around these repair depots. It's

almost impossible for a small- or medium-sized contractor to get work. They claim they can do it less expensively than we can, even though we built the parts originally, but their accounting system is a little different than ours and they certainly don't account for all the costs on a true business basis.

As I pointed out in my prepared statement we ran across a case where they scrapped out some rather expensive aircraft fuel injectors, some 400 in number. We took them on a free basis, rescued 396 of them, and saved the Government about $16,000, which is a small amount, but there are a lot of opportunities for savings that are never being exercised in the military.

There's also another area, and that is, as I point out in point 6, simplify the procedures for obtaining direct military sales by the private sector.

We were talking about it at breakfast this morning. I figure that to bid on the job that we have never produced before but are fully capable of producing takes about 3 years. I'm 50 years old. I think I'll retire at 65. If I can get four or five more jobs at the present rate it would be time to retire. We need a clear path to let private enterprise get in and do what a lot of companies like ourselves would like to, and that is to bid the work and in so doing diversify our production portfolio. This takes the ups and downs out of the contracting process and the cycles that funding goes through.

SBA tries at depots unsuccessfully to help small business. Purchase specifications are always written too tight and go beyond the functional criteria normally found in commercial products. Even trying to get drawings and specifications is difficult. We have all of the FAA approvals. We have all of the military certifications. We produce excellent quality products, but the system is so cumbersome that it's impossible to create a real true bidding environment. We also see cases where engines are overhauled by people other than those that made the equipment originally. There's tremendous waste in this. Yet here again, trying to divert that work from the depots back to people such as ourselves is practically impossible to do.

Finally, there's an ongoing problem. I can appreciate it because I was in the military for a while, but there's a real lack of professionalism among the technical people out in the field. We're building a very sophisticated product. Fuel injectors on gas turbine engines do need to be replaced periodically. It's quite discouraging when we ship new production out in the field and have it returned because of damage and that sort of thing.

The bottom line, gentlemen, I think is this: There are some people that need funding for one reason or another to increase their military and government participation. We do not. We don't seek it. We don't need it. We are happy to self-fund our growth.

What we are asking of you, gentlemen, rather, is that you give us an arena where free enterprise can bid, where we can bid and be competitive. We'll do the rest and I think for a lot of small and medium manufacturers that's really all they ask.

So again, I thank you very much for this opportunity and I will be glad to answer any questions that might come to mind.

[The prepared statement of Mr. Ryan follows:]

Prepared Statement of Joseph Ryan

COMPANY BACKGROUND SUMMARY:

Delavan was founded in 1942 and soon commenced operations as a manufacturer of aircraft components for use in World War II. Following the war, the company diversified into other commercial as well as military products, most of which relate to the controlled atomization and precision spraying of fuels and other liquids.

Today, Delavan is a company of some 40 million in annual sales volume with seven plants, six of which are domestic and one of which is located in the United Kingdom. We employ some 700 people, about 350 of whom are located at our headquarters in West Des Moines, Iowa.

Our orientation is toward design engineering and precision mass production. Much of our spray technology is devoted to "State-of-the Art" products for aircraft gas turbine engines, agriculture, industrial/environmental pollution control, high performance hydraulics, commercial/residential oil fired heating systems and sophisticated industrial instrumentation type electronics. Our expertise is such that we frequently are asked to consult and/or conduct laboratory developmental work for Batelle, Stanford University Research, Mid-West Research and others engaged in creative private industry or government funded research programs.

GENERAL COMMENTARY:

For the purpose of brevity, our comments will be devoted to our work in the development of sophisticated fuel injection devices, valves and ancilliary equipment for military and commercial gas turbine engines. Generally speaking, the stumbling blocks encountered in supporting military engine programs are symptomatic of similar problems found in defense contracting in our other product lines.

Much has been written in the national media and a host of trade publications about the alarming shrinkage in the number of high technology firms which comprise the military/industrial base. We are concerned, as are many others, not so much from a company-related business standpoint, but rather from the standpoint of the real and pressing need for a good and sound national defense posture. When our telephones and telexes bring in a flow of emergency production requests for help in avoiding military aircraft fleet groundings due to the lack of spare parts, we as citizens become deeply concerned. When our major aircarft engine customers tell us of seriously low aircraft readiness rates, we are similarly concerned. Put simply, one can't operate his own automobile, much less the complex military equipment, without adequate compliments of spare parts. Therein lies the tale and we see it all too frequently in the conduct of our business with the Military.

Looking at our own operations, we see a basic incongruity that we suspect applies to other companies as well. We fully support the concept of strong military preparedness and yet we as a company have de-emphasized our military production. Full commitment is just too high a risk for a company of our size.

As the attached graph indicates, we have reduced our percentage of military business from 80.4 percent in 1957 to 18.07 percent in 1980. This was done by corporate decision for three basic reasons:

1. Projected company growth
2. Profitability
3. Predictability

We felt and still feel that the company cannot count on steady growth through defense contracting because of the frequently changing political and economic philosophies in politics and government. Further, that allowed profitability will not properly sustain capital reinvestment in the business and finally that the present government contracting processes are too vague and too changeable to be predictable from a business planning standpoint.

SPECIFIC RECOMMENDATIONS FOR IMPROVEMENT:

On the premise that negativism is counter-productive, we prefer to offer positive suggestions which in our small way should serve to improve the attractiveness of military contracting while at the same time decrease the cost to the government. To present a clear picture, we feel it appropriate to start at the engine design stage and conclude with field spares procurement and equipment overhaul/rebuild:

1. Leave Engine Development and Fuel Injector Design to Those Who Know the Art.

   Departing from tradition, and at the encouragement of the Military, most injector design is now done in-house by the major engine

companies. Theoretically, this fosters dual sourcing and competitive bidding by sub-contractors such as ourselves. In actual practice, this approach results in:

a. Costly overdesign which leads to unnecessary machining and fabrication problems.

b. Designs which are not "Value Engineered" to the capabilities and facilities of those who must produce the hardware.

c. Escalated development costs for both the prime and subcontractors because of a lack of expertise.

d. The use of exotic alloys such as cobalt, titanium and paladium which are scarce and very volatile in price.

Left alone to do their work, competing manufacturers tend to develop similar designs through good engineering practice based upon years of experience. Cost effective competition will still take place and "State of the Art" improvements in performance and reliability will be more readily achieved if the design tasks are done by firms actually in the business and not by the engine manufacturers under guidelines from the government. The complexity of present designs developed in recent years by the engine manufacturers wipe out any potential cost savings which customarily stem from the competitive bidding process.

2. Refine and Modify the Military's Approach to Long Term Firm Fixed Price Contracts.

We can appreciate the need for exercising tight governmental control over wild escalation in the cost of military hardware. Further, we completely agree that cost reductions can and should be achieved as full production rates are attained. However, the Military's insistence on across-the-board firm pricing is unrealistic. Using our company as an example, we are perfectly willing to put full effort into controlling and reducing the labor hour content and labor hour cost of our products. Conversely, a company of our size cannot control the price it pays for exotic raw materials. When the Military takes an unbending position with the prime engine contractor, the prime takes a similar entrenched position with its vendors such as ourselves. When the smaller vendors suffer major losses beyond their control and can achieve no relief, they elect to discontinue making the part. Again, competitive bidding is lost and fewer companies continue to be a part of the military/industrial defense preparedness base. On a recent new engine program for General Electric, we experienced a material cost increase of 300 percent on a fixed price three-year contract. This brought about a loss potential of approximately $200,000.00. We obviously are not very interested in supporting programs of that kind nor can we justify the financial risk.

3. Insist on Practical (Not Theoretical) Dual Sourcing During Engine Development and Onward into Full Production:
Some prime engine contractors do make a conscientious effort to dual source and to procure production from two sources on a regular basis. Even though their in-house design programs, as mentioned previously, are overcostly, they are at least following the expressed desires of their customer, the Military. However, other of the prime contractors have mislead the government for years and in so doing have lulled the military into a false sense of security. These latter engine manufacturers develop two sources through the development and test phase but never buy from the second source after engine certification is achieved. This approach has the following disadvantages:

a. There is no competitive bidding.
b. The prime contractor controls all spare parts sales at tremendous additional cost to the government.
c. The second non-producing source has no way of keeping up with the design and performance improvements that evolve and is thus really in no position to produce in times of national emergency.
d. The second source is all but precluded from going direct to the Military to achieve sales by bidding on spares requirements.
e. Smaller vendors become reluctant to participate in the design development phase of a program because

of the diminished possibility of recovering out-of-pocket development costs through normal production profits.

Speaking for Delavan, we no longer elect to participate in development programs with one of the very largest engine prime contractors for the exact reasons set forth above.

4. Develop Manufacturing Cost Reduction ("Value Engineering") Incentive Programs that Really Work:

Usually about twice a year we receive a letter from our government contracting officer asking for suggestions on cost reduction. We make suggestions and receive a courteous reply, but no follow through. In our view this is a paperwork game the Military plays to impress the Congress. With reasonable financial incentives, American private business will respond to the challenge. Presently, the basic ingredients for a successful program are missing.

5. Force the Military to Take a Realistic Approach to "Contracting Out":

For the most part, the military repair/overhaul depots with which we work are very well fortified against the need to subcontract even though the work could be done more cheaply (and in most cases better) through outside vendors. In visiting these installations, we see first hand the slippages, lack of skills, scrappage, waste and so on and so forth. We have tried on several occasions to bid work to be done in our own overhaul and repair facilities but have never been successful.

The depots protect their in-house work by claiming they can do it less expensively even though we made the parts originally. By way of contrast, we are very competitively priced in our contracting of commercial engine overhaul work. Actually they simply ignore some of the fundamental cost elements attributable to their operations so that they look competitive on paper. Two years or so ago on a visit to one of the depots, we noted barrels and barrels of expensive scrap parts and were told that no salvage was possible during engine overhaul. At our suggestion, and as a test case, we had a lot of 400 pieces returned to us. Of that lot, 396 units were saved and again made airworthy. The savings to the government on that small "free gratis" transaction was about $16,000.00. Yet to this day, we have never been able to secure an overhaul contract. We have given up on any further initiatives of this kind even though the potential for cost savings for the government and business for us is obviously present.

6. Simplify the Procedures for Obtaining Direct Military Sales by the Private Sector:

The military repair/overhaul depots are a true maze through which even experienced companies have difficulty travelling. The new or unexperienced companies seldom bother, again reducing the size of the industrial base. There is no clear path to follow in seeking business.

a. Most depots have SBA offices which are supposed to provide guidance. However, their personnel have neither the expertise nor the clout to be effective in assisting small business. Since we qualify as a small business for aircraft engine parts, we have tried this approach with no success.

b. Purchase specifications are often written too tightly so as to overly favor an established vendor even though others could realistically fulfill all of the accepted "form, fit, function" criteria normally found in private industry.

c. Trying to obtain drawings and specifications in order to bid jobs against an established competitor is costly, time consuming and extremely difficult. Thus, competition and dual sourcing are discouraged.

In 1979, the Defense Department awarded 66 2/3 percent of its contracts on a sole source basis. This is not much encouragement to new suppliers who would like to enter the field. With thirty-five years of engine fuel injector experience and with all of the FAA-PMA approvals we have, there is hardly an engine in service for which we could not furnish hardware of excellent quality. However, the cumbersomeness of the procurement system makes expansion into new military work frustrating and unattractive.

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7. Send the Overhaul/Salvage Work Back to the Original Manufacturer: Many of the engine overhaul contracts are let by the Military repair depots to private overhaul contractors. The Military in turn furnishes the necessary repair parts. On components of the types we manufacture, the overhaul firms have little expertise and frequently scrap out inordinate quantities of repairable parts that could be saved and reused. This inflates the quantity of new spare parts the Military is forced to buy and in turn the engine overhaul costs increase accordingly. A waste of money and strategically scarce materials. Moreover, the useful life of our parts on the engine is often materially reduced.

8. Encourage the Department of Defense to Enter into Longer Term Contracts with Medium and Smaller Size Suppliers: "Feast or Famine" procurement cycles drive smaller firms out of the military contracting business. Steady and predictable production levels provide good incentives for the private sector and lowers purchase costs for the government. By building in logical escalator factors, both the government and industry could realistically live with contracts of two to three years duration and at the same time vastly improve the continuity of the flow of essential spare parts.

9. Emphasize Improved Professionalism on the Part of the Military Procurement and Technical Personnel:

Once a contract is received, costly and unnecessary factors often come into the picture. Last minute changes in schedules, shipping destinations, lot sizes, inspection and approval specifications, etc. all add to the difficulty of achieving cost effective production. After shipments are made, we are frequently forced to do the work over again because of handling damage caused by poorly trained military field technical and maintenance personnel. Again, these are unplanned and unanticipated costs to us upon which monetary recovery is difficult if not impossible.

SUMMARY:

Nothing suggested in the way of improvements in this testimony is impossible to achieve. We as a company are willing to do our part, as we recognize the fundamental necessity to unquestionably protect our nation from its enemies. In peacetime, however, we must also concern ourselves with the very real need to protect the growth and profitability of the company and more importantly, its shareholders and employees. Doing an increasing amount of government business presently runs counter to these goals, at least in terms of current day contracting and spares procurement philosophy. It is our hope that our suggestions in a small way at least may serve to improve the climate in the military/industrial base to the point that more private sector companies will wish to either enter the field or allocate a larger percentage of their capacity.

While we can only speak for Delavan, it should be stressed that we do not see the need for the government at any level to become involved in our business through the offer of assistance programs. We can generate our own cash and make the necessary investments in facilities and equipment without another layering of regulatory encumbrance. Rather, we ask that government simply give us a military-business environment in which free enterprise can again work and thrive in an open and competitive manner. Though latent in recent years, innovation is still there; the desire to be productive is still there. Establish an open and businesslike climate and American private industry will respond.

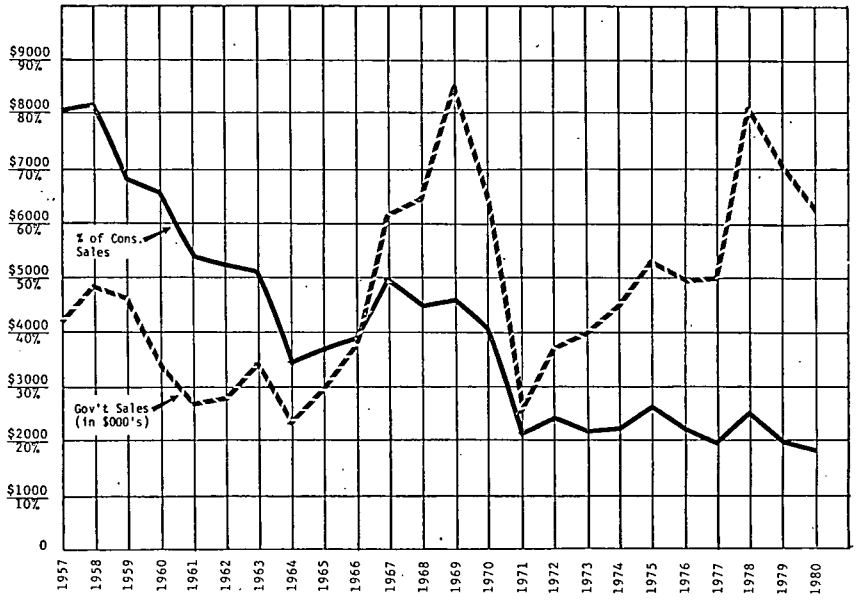
DELAVAN CORPORATION

CONSOLIDATED SALES

(DOLLARS IN THOUSANDS)

	COMMERCIAL	GOVERNMENT CONTRACTS	TOTAL SALES	% GOVT TO TOTAL
1980	28,113	6,202	34,315	18.07
1979	29,072	7,018	36,090	19.45
1978	24,407	8,098	32,505	24.91
1977	21,588	4,993	26,581	18.78
1976	17,568	4,927	22,495	21.90
1975	15,116	5,280	20,396	25.89
1974	15,660	4,467	20,127	22.19
1973	14,340	3,943	18,283	21.57
1972	11,718	3,640	15,358	23.70
1971	9,765	2,522	12,287	20.53
1970	9,715	6,495	16,210	40.07
1969	10,111	8,538	18,649	45.78
1968	8,136	6,458	14,594	44.25
1967	6,233	6,164	12,397	49.72
1966	5,983	3,747	9,730	38.51
1965	5,067	2,944	8,011	36.75
1964	4,401	2,287	6,688	34.20
1963	3,374	3,461	6.835	50.64
1962	2,548	2,767	5,315	52.06
1961	2,275	2,657	4,932	53.87
1960	1,779	3,349	5,128	65.31
1959	2,203	4,620	6,823	67.71
1958	1,067	4,823	5,890	81.88
1957	1,031	4,229	5,260	80.40
1956			4,878	
1955			3,801	
1954			2,984	
1953			1,505	
1952			920	
1952			953	

DELAVAN CORPORATION
% of Government Sales to
Total Consolidated Sales



Senator JEPSEN. Thank you, Mr. Ryan. Congressman Brown.

Representative BROWN. There seems to be some difference of opinion between you and Mr. Westwood-Booth about whether the private sector, given the advantages of the new depreciation approach as proposed by this administration, can meet the requirements of expanding the defense market and whether or not there's need for federal direction of funds through some interest subsidy into the industry.

I gather, to summarize what you were saying— and I want to be sure that I grasped it accurately—that you would prefer to see some of the functions now being done by the military during what might be referred to as the peacetime period performed by private contractors; namely, the defense establishment, the industrial establishment, on a basis of repair and maintenance and that sort of thing, as a means of diversity so that you can help carry the cost of your operation through a period of time the defense contracts are not expanding for new equipment. Is that correct?

Mr. RYAN. That's exactly correct, Congressman. It works this way. Really there are about three factors involved in our business as related to our engine work. We have the original equipment which goes on the new engine when it's built. Then after the engine has been in service for a while fuel injectors have to be repaired and changed. And then finally, at the end of the life of the product you get into the salvage end operation.

Now if we can diversify our business so we're working on new equipment, repair and salvage, then we have more jobs, let me put it this way, in our portfolio. I feel like a musician with a repertoire. If you decide, for example, a certain engine in a given year should not have great funding that's fine, but there are two others under here which you probably think should have, and it tends to even out then by giving us more things to work on.

Now this makes it more attractive to get back into the business. This is one reason that we went from 80 percent to 18 percent. We were on too few programs. We had one year back in 1971 or 1972 when funding was cut back by the Congress and our backlog went down $7 million in less than 6 months. Now we have to have enough in there so we can maintain some continuity. I don't want to go out and hire another 150 people and then a year later dump them out on the street. That's not the way to do it.

Representative BROWN. Let me ask if that can't be dealt with within the company itself by getting into nondefense business?

Mr. RYAN. Certainly.

Representative BROWN. And getting into some other kind of private civilian market business.

Mr. RYAN. We have.

Representative BROWN. Would you comment on that?

Mr. RYAN. That's exactly what we have done, Congressman. We have taken the 80-percent capacity that used to go to the military and have devoted that to commercial. So now, instead of making fuel injectors almost totally, we are in the high performance, hydraulics, industrial electronics, residential oil heating, pollution control applications, and we are doing it very nicely; but I think the question

is this, If it be true that the defense industrial base is shrinking, do you feel the need to invite us back by making it a little less risky for us to get there? We would like to do the business for the government. That's fine. And I don't say it should be with no risk because business growth involves risk. I'm just saying the risk is too great right now and we have commercial business where we used to be almost totally military.

Representative BROWN. It occures to me that that civilian base in a wartime situation might shrink very quickly as the whole national economy converts to a wartime base, and therefore there is some protection, although you're suggesting it isn't altogether that desirable.

Mr. RYAN. It's true if you look at it on a piece of paper you say here's a plant in Des Moines, Iowa, and if we went in and said, OK, you're required to produce military parts. Sure, we would do our best. The problem is that the state of the art and technology involved in this takes a year and a half or 2 years for a job that we have not produced before. That's why I say you're going to be better served I think if you push dual sourcing and let more people do part of the work all the time. It helps their own portfolio and at the same time keeps you up with the state of the art. You can come in and capture our production and we wouldn't fight it because if a war comes we would raise our hand and volunteer. The point is the lead time isn't there.

Representative BROWN. I understand. Your point is well made. Let me just hit one area of agreement, if I understood your testimony correctly, and that of the preceding witness, between the two of you, and that is that there is need for more of the private industry technical people to get into the planning of the method by which the military achieves the production of the product that it would like to have.

Mr. RYAN. Yes.

Representative BROWN. Now let me inquire where that breakdown is? Is it the desire of the military to plan out the product in too detailed a way or is it some other failing in the process? How would you suggest it be done? Would you want a layout of what the military wants to achieve by its weapons systems and then turn that over to private industry to design from the ground up or would you have it be done partially by the military and have the details completed and the specifications drawn or would you do it on a competitive bidding basis or how would you do it?

Mr. RYAN. Well, my suggestion there, you know, sometimes the past does make good prologue. It used to be, say 10 or 15 years ago, that when a new engine was built for the military, our company and perhaps three or four of our competitors would be given what's called a design envelope—what that part is supposed to do and the size it has to be to fit on the engine—and then all the technology was ours. The bidding was open to three or four competitors. Everybody designed it in such a way that it could be made cost effectively and the system worked great for years and years.

Then the military got in and said, no, wait a minute; we're going to help you, General Electric, Pratt & Whitney, Lycoming or whoever it is, we're going to help you design that part and the portion we don't design we'll have you design. As an example of how this works

out, we've got a job going in one of the military helicopters where we've got about a $200 injector that if designed by private industry that would do just as well and would cost around $50. So really the approach taken now is not dual source. All it does is give you a product that isn't blue or green; it's in the middle someplace and nobody can make it. That's what you get. Now if you want it made that way, we'll be glad to do it, but it's a waste.

Senator JEPSEN. Your company has been especially hit hard by the cost of materials. You mentioned the exotics, cobalt, titanium and so on. How do you ever recover these uncontrollable costs in the contract?

Mr. RYAN. We haven't. We've tried. Most of the exotic raw materials are pretty difficult, escalation wise. We have gone back to our customer, the prime contractor, and requested relief, and have just simply received a flat turndown on the basis that this is a firm, fixed price contract and there is no relief and, as I mentioned in my prepared statement, we had one—again on the T–700 engine, which the loss was about $200,000. That's as far as we can go—to the prime. If he says no, we're stuck. So it makes us a little reluctant to bid the next time.

Senator JEPSEN. How could second source and competing bidding be made compatible with multiyear funding?

Mr. RYAN. I don't see any problem with that at all as long as you have—we do this on commercial work where we and say one or two of our competitors are all on the same multiyear agreement with the set of indexes for escalators say using metal and metal products index aircraft workers' wages and that sort of thing. We all agree to that and if I understand your question correctly, Senator, we can all bid under that environment and feel protected.

We do this, incidentally, with Pratt & Whitney or Pratt of Canada, which to us is a commercial customer in that it's a nonmilitary application, and we've survived quite well up there and I think our competitors did too.

Senator JEPSEN. Very quickly now, I understood, if I heard you correctly, you told a story about a fuel injector or something to that effect where you could produce it with the same results for one-fourth the price.

Mr. RYAN. Sure, because of what happens when you have sole sourcing. You arrive at sole sourcing a number of ways, but laying that aside, if you have a sole source situation where the engine prime contractor is selling parts made by others to the military, you can expect a 4- to 10-times markup and the average is about 6. Now here we are sitting one tier below that prime and we can't bid those parts directly to the military. So there's a tremendous savings there. There's really more bang for the buck in this area if we could get out from under the prime. We're stuck. The solution is going to have to come from the military by directive, I think.

The military was sold the F–100 engine for the F–16 fighter on the basis of dual sourcing. There's only one fuel injector source on the engine and we don't happen to be the one. All those spare orders will go right back through the prime from the military and cost a bundle.

Senator JEPSEN. Finally, you mentioned lack of professionalism in the field when you send things out and they come back and they

are busted and so on. Elaborate just a bit. Are you talking about in the military, civilian, or both, and at what levels?

Mr. RYAN. We find this to some extent—we don't find it in the commercial business because those engines are overhauled and they have good, long-term technicians. I realize the problem with the military. They've got a continuous training problem. We see it to some extent at the Air Force depot level where the parts go through there and out to the squadron level and that's where the problem really comes, I think. Now I don't know just how they are structured, but my suggestion would be if they had a few more civilian technical representatives or people who knew what they were doing, it would save a tremendous amount of money. There are lots of parts that are damaged before they are ever used, which is unfortunate.

Senator JEPSEN. Thank you very much.

We will now have Mr. Jack Moran of Carlton Machine Tool Co. of Cincinnati. Welcome.

STATEMENT OF JACK E. MORAN, CHAIRMAN OF THE BOARD AND CHIEF EXECUTIVE OFFICER, CARLTON MACHINE TOOL CO., CINCINNATI, OHIO, ACCOMPANIED BY CHARLES P. DOWNER, INDUSTRIAL PREPAREDNESS REPRESENTATIVE, NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION

Mr. MORAN. Mr. Chairman and members of the subcommittee, my name is Jack Moran. I am the owner, chairman of the board, and chief executive officer of the Carlton Machine Tool Co. of Cincinnati, Ohio. Accompanying me is NMTBA's industrial preparedness representative, Charles P. Downer.

Our prepared statement reviews some startling statistics that were presented to this committee by NMTBA earlier this year. These aggregate trade statistics reveal that $1 out of every $9 spent by American industry on machine tools is being spent on Japanese equipment.

And what is particularly disturbing to our company is the fact that we face trade barriers in our attempts to export that our foreign competitors do not face in their attempts to sell to the United States.

Some of these inequities are:

One. The tax treatment of exports by some of our foreign trading partners comes perilously close to being an export subsidy—but our DISC is subject to assault in GATT. We should all play by the same rules.

Two. How can it be called free trade when uneven surveillance of potentially military critical items by our CoCom allies has put U.S. exports at a competitive disadvantage.

Three. We seem to constantly shoot ourselves in the foot by erecting barriers to the formation of export trading companies and by imposing regulatory burdens—such as the Foreign Corrupt Practices Act—our foreign competitors do not impose on their companies. Fortunately, Congress is beginning to remove some of these export disincentives.

Four is the most discouraging aspect of this whole problem of foreign competition as far as Carlton is concerned. Several years ago we at

Carlton were involved in a dispute with the Department of Defense over the purchase of Japanese machine tools for the XM–1 tank project. During this dispute we were told by a Department of Defense official from the last administration that the existence of the U.S. machine tool industry was not vital to the United States because any war would be a short one and therefore they wouldn't need us. They never considered that their actions would tend to strengthen a foreign country's industrial base and weaken ours. If the machine tool industry is weakened enough, we will be laying our country open to industrial blackmail.

The net result, so far, of this decision by the Department of Defense has been to put a Japanese machine tool builder in business in the United States where they had never been before because they are able to use the U.S. Government as a reference.

Our industrial base is becoming dependent upon foreign sources. During periods of mobilization in a national emergency this foreign source dependence could cause severe production problems and could seriously threaten our national security.

We must take the actions that are necessary to make the machine tool industry more competitive in the world marketplace. This is a national security necessity. For we cannot be dependent on foreign machine tools any more than we can be dependent on foreign weapons.

In recent years there has been growing concern about the deterioration of the defense industrial base and the serious effects this could have on defense industrial production.

Machine tools provide the basis for production of all military hardware, however, only a fraction of the Nation's machine tools are capable of efficient and timely production of today's sophisticated weapon systems. This, no doubt, is a major contributing factor to the high costs that we are experiencing in the production and maintenance of our defense systems.

The average age of government-owned machine tools is approximately 25 years. The Defense Department has approximately 97,000 such tools with an acquisition value, 25 years ago, of approximately $2.5 billion. Of this total inventory, only 2.4 percent consists of modern numerically controlled machines. The majority of the defense-owned plants are 35 to 40 years old. And it is even more disturbing that we continue to rely on this dated and inefficient equipment to produce and maintain our modern sophisticated defense systems.

Although the Defense Department has a policy that calls for systematic modernization of their industrial resources, adequate funding has not been available. Each year funds for this effort receive a relatively low priority. The 1980 Defense Science Board study on industrial responsiveness analyzed this problem and recommended:

> To upgrade the base in a reasonable time, a significant one time replacement of 25 percent of the acquisition value (plus inflation) of the base be done. Following that step, selective modernization at the rate or 5 percent per year should be continued. Many of the tools should be disposed of now and funds generated from their disposal put in a revolving fund to buy new tools.

The initial actions the Department of Defense has taken to improve the productivity and responsiveness of the defense industrial base are commendable. The initiatives to improve program stability by

greater use of multiyear contracting will encourage capital investment and provide for more efficent production. I understand that the Defense Department expects to ultimately save 10 to 20 percent in the unit cost of its equipment by proper use of this technique. You, Mr. Chairman, are to be commended for your leadership in achieving this important procurement reform.

The actions the Department of Defense has in process to streamline its acquisition procedures and reduce the redtape of defense contracts will help to keep industry in the defense business and will encourage new suppliers to come in.

Considering the fact that manufacturing represents approximately 70 percent of the initial cost of a defense system, DOD's actions to improve manufacturing technology within the defense industrial base and its plans to modernize its overaged machine tools is essential.

As you and your colleagues in the Congress consider cuts in defense spending, I hope the machine tool modernization program and the DOD manufacturing technology program are not targeted for reduction or postponement, for these programs are essential if we are to improve the productivity and responsiveness of the defense industrial base and reduce defense costs. In point of fact, reduction or postponement of these two programs will ultimately result in increased costs of all defense systems.

We believe the key answer to many of our economic problems is declining U.S. productivity.

The U.S. Government itself has a productivity problem in the areas where it is involved in metalworking. For instance, the Department of Defense has over 800 Carlton machines either in active use or in inventory. Because of advances we have made in drilling technology, these machines are only 10 to 20 percent as productive as a current machine. The Government could bring these up to the 100-percent level of a new machine by remanufacturing these drills for a little more than half of the price of new equipment. But in this area, as in many other areas of technology, Government purchasers are not kept abreast of what is new. I personally feel it would be very useful if Government purchasing people would visit U.S. machine tool plants on a regular basis so that they could be aware of the current state of the art.

The depreciation reform component of the President's economic recovery program should go a long way toward providing the capital necessary for American industry to modernize and become more productive.

Instead of a national commitment and cooperative effort between Government and industry to solve the problem, an adversary relationship has existed in the past. We have been enacting more laws and regulation, often siphoning off dollars that could be used to improve our products and our productivity. This is opposite to the cooperative relationship that exists between Government and industry in other industrialized nations that we must compete with in the international marketplace.

Compared to other industries, the American machine tool industry is very small. Our industry contains a large number of very small businesses. There are only 9 establishments with 1,000 or more employees and only 36 employ 500 or more.

In addition to the unique industry structure, other major factors influence the industry and its ability to respond to mobilization.

The highly cyclical demand for machine tools limits our industry's decisions to invest in expansion of capacity. In spite of this, the machine tool industry has increased capital investments 30 percent per year for the past 5 years. However, this is insufficient to meet mobilization requirements or to compete with some of our foreign competitors, especially Japan.

We must provide a tax system that will promote the capital investments that are needed to quickly improve America's lagging productivity. The tax legislation recently adopted by the Congress will help accomplish this result.

We should encourage the U.S. Government to buy machine tools the way private industry does because the equipment would cost less and the Government would get more for the money they spend.

Another thing I think would be useful would be the appointment of industry experts to advise the Government purchasing people on the current state of the art in technology, perhaps even a throwback to the old $1-a-year man.

The one thing that the Government must not do during these difficult times is sell off their surplus inventory of machine tools. This would further depress our already slow market and cause serious problems for this small but vital part of the U.S. economy.

An increase in U.S. manufacturing productivity will have a tremendously beneficial impact on the standard of living of the American people. Our sagging productivity is a major cause of America's economic stagnation, and major contributor to inflation. Cost reductions in manufacturing products are best achieved through better machines, equipment and tooling.

The steady decline in American productivity the last 10 years endangers our ability to generate new wealth at home and undermines our competitive position abroad. With prompt concerted action taken by Government, industry, and labor to reverse this trend, we can do the job.

[The prepared statement of Mr. Moran follows:]

Prepared Statement of Jack E. Moran

I. INTRODUCTION

Mr. Chairman and members of the Committee, my name is Jack E. Moran. I am the owner, Chairman of the Board and Chief Executive Officer of The Carlton Machine Tool Company of Cincinnati, Ohio. I started as a machinist at Carlton in 1960, became President in 1975 and this year completed the acquisition of a majority of the ownership of Carlton, at which time I became Chairman of the Board.

Carlton was founded in 1916 to manufacture radial drills and today manufactures the largest and heaviest duty radial drills in the world. Radial drills are a standard machine tool for production and tool room work for almost all metalworking shops. Although we are faced with extensive competition from manufacturers all over the world, selling both in the United States and abroad, Carlton still manages to export almost 30% of its production while maintaining the major share of radial drill sales in our size range domestically.

We employ approximately 300 skilled people at our plant in Cincinnati and although that is not generally considered a large company, it puts Carlton in the top 5% of the U.S. Machine Tool Industry.

We are a member of the National Machine Tool Builders' Association (NMTBA). NMTBA is a national trade association comprised of about 400 members which account for approximately 90% of United States machine tool production. The total industry employs over 90,000 people with a combined annual output of $4.0 billion. Accompanying me is NMTBA's Industrial Preparedness Representative, Charles P. Downer.

While relatively small by some corporate standards, the American machine tool industry comprises a very basic and strategic segment of the U.S. industrial base. It is the industry that builds the machines that are the foundation of the United States' industrial and military strength. Few, if any, goods and services would exist in this country if it were not for machine tools. There would be no aircraft, ships, cars or railroads. There would be no appliances, agricultural machines, etc. In short, life as we know it today would be impossible without modern machine tools.

American industry, including the machine tool industry, collectively has the brains, the know-how, and the ingenuity to outproduce any competitor in the world marketplace. But, with aging manufacturing plants, with capital that is being eaten up by inflation, and with tax legislation that until recently has encouraged consumption while discouraging savings and investment, it has become increasingly more difficult for the machine tool industry, the auto industry, the steel industry and many other U.S. basic wealth producing industries to compete in the markets of the world.

II. THE JAPANESE CHALLENGE

Permit me to review some startling statistics that were presented to this Committee by NMTBA earlier this year.

Since 1964 American imports of machine tools have more than tripled, from 7% of total consumption 16 years ago, to almost 30% this year. (See Chart 1) For the first time in history, the machine tool industry's balance of trade was negative in 1978. In 1979 it was negative by $400 million and in 1980 by $513 million. (See Chart 2)

A finer resolution of these aggregate trade statistics reveals that one out of every nine dollars spent by American industry on machine tools is being spent on Japanese equipment. Although import sales in our domestic market are not a new phenomenon -- as Chart 1 shows, the first wave of imports came during the mid 1960's, when import market share increased from about 7.5% to 12% -- Chart 3 clearly illustrates the dramatic jump in the value of foreign machines sold in the United States market which has occurred in the last three years. As you might have guessed, the value of Japan's machine tool shipments to the United States increased (both in terms of actual dollar value and percentage of market-share increase) the most during this period, more than quadrupling since 1977.

Clearly, the Japanese have targeted the United States machine tool market. This fact becomes quite evident when we examine the statistics detailing Japan's top ten machine tool markets for the years 1975 and 1980. (See Exhibit 1)

In 1975, the United States market accounted for nearly 22.8% of all machine tools exported from Japan. Even at this point American purchases comprised the single largest export market for Japanese machine tool builders, with the Republic of Korea a distant second with 13.3%.

By 1980, almost four out of every ten machine tools exported from Japan were destined for American buyers. This represents an almost 75% increase in the share of Japanese machine tool exports being sold in the United States. This amounted to close to five times the volume sold in West Germany, the second largest Japanese foreign market in 1980. It is also significant to note that simultaneous with this increase, the percentage share that exports represent of total Japanese production was also expanding from 26.7% to 39.5%.

If these statistics are not alarming enough, while the Japanese share of the United States domestic machine tool market more than tripled from 1975 to 1980, the dollar value of Japanese exports into this country ballooned by nearly ten fold, from $47.3 million to over $471 million.

Finally, we should not fail to appreciate the types of machines that are being supplied to domestic customers by our Japanese competitors. (See Chart 4)

No big surprise here: lathes are still number one, and lathes and milling machine imports have nearly quadrupled. Grinding and polishing machine imports, gear-making machine imports, and metalforming machine imports, have all more than doubled in the last three and one-half years.

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But the really big gainer is hidden in the "other metalcutting" category. In 1977 machining center imports were not considered important enough to even record. Today machining center imports total more than $105 million. They equal about one-third of the "other metalcutting" category. That makes machining center imports number five on the list just behind milling machine imports.

In sum, we are losing an increasingly larger share of our domestic machine tool market to Japanese imports each year. But perhaps even more distressing is the changing character of that market share which is increasingly comprised of more technologically advanced equipment each year. Perhaps this could have been expected, since the United States economy is the largest free market in the world. However, it is certainly a development which we can ill afford to resign ourselves to.

And what is particularly disturbing to our company is the fact that we face trade barriers in our attempts to export that our foreign competitors do not face in their attempts to sell to the U.S. Some of these inequities are:

1. The tax treatment of exports by some of our foreign trading partners comes perilously close to being an export subsidy -- but our DISC is subject to assault in GATT. We should all play by the same rules.

2. How can it be called free trade when uneven surveilance of potentially military critical items by our CoCom allies has put U.S. exports at a competitive disadvantage.

3. We seem to constantly shoot ourselves in the foot by erecting barriers to the formation of export trading companies and by imposing regulatory burdens (such as the Foreign Corrupt Practices Act) our foreign competitors do not impose on their companies. Fortunately, Congress is beginning to remove some of these export disincentives.

4. The most discouraging aspect of this whole problem of foreign competition as far as Carlton is concerned, is the attitude of the U.S. government. Several years ago we at Carlton were involved in a dispute with the Department of Defense over the purchase of Japanese machine tools for the XM1 tank project. During this dispute we were told by a Department of Defense official from the last administration that the existence of the U.S. machine tool industry was not vital to the United States because any war would be a short one and therefore they wouldn't need us. They never considered that their actions would tend to strengthen a foreign country's industrial base and weaken ours. If the machine tool industry is weakened enough, we will be laying our country open to industrial blackmail.

   The net result, so far, of this decision by the Department of Defense has been to put a Japanese machine tool builder in business in the U.S. where they had never been before because they are able to use the U.S. government as a reference.

Our industrial base is becoming dependent upon foreign sources. During periods of mobilization in a national emergency this foreign source dependence could cause severe production problems and could seriously threaten our national security.

In the mid-1960's the American machine tool industry supplied about one-third of the global market. Today we supply approximately 15%.

We must take the actions that are necessary to make the machine tool industry more competitive in the world marketplace. This is a national security necessity, for we cannot be dependent on foreign machine tools any more than we can be dependent on foreign weapons.

III. THE DEFENSE INDUSTRIAL BASE

In recent years there has been growing concern about the deterioration of the defense industrial base and the serious effects this could have on defense industrial production.

Last year, the House Armed Services Committee became so concerned about the serious decline in the nation's industrial capability that it created a special panel on the Defense Industrial Base. That panel held 13 days of hearings, including 4 days of field hearings, and took testimony from 34 witnesses. The findings of this special panel were released in a report dated December 31, 1980.[1] In his letter transmitting the report to the full Committee, Chairman Richard Ichord said:

> The panel finds that there has been a serious decline in the Nation's defense industrial capability that places our national security in jeopardy. An alarming erosion of crucial industrial elements, coupled with a mushrooming dependence on foreign sources for critical materials, is endangering our defense posture at its very foundation.[2]

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[1]U.S. Congress, House of Representatives, The Ailing Defense Industrial Base: Unready for Crisis Report of the Defense Panel of the Committee on Armed Services, 96th Cong., 2nd sess., 1980.

[2]Id., at III.

The report characterized our defense industrial base as crippled by declining productivity growth, aging facilities and machinery, shortages of critical materials, increasing lead times, skilled labor shortages, inflexible government contracting procedures, inadequate defense budgets and cumbersome government regulations and paperwork. Chairman Melvin Price stated:

> Our troops are outmanned and outgunned at almost every turn. Plainly and simply, we are not prepared. Our defense production base is ailing, and in the event of a crisis, we do not have the staying power to sustain us until that base could come into play.

Machine tools provide the basis for production of all military hardware, however, only a fraction of the nation's machine tools are capable of efficient and timely production of today's sophisticated weapon systems. This, no doubt, is a major contributing factor to the high costs that we are experiencing in the production and maintenance of our defense systems.

The average age of government-owned machine tools is approximately 25 years. The Defense Department has approximately 97,000 such tools with an acquisition value, 25 years ago, of approximately $2.5 billion. Of this total inventory, only 2.4% consists of modern numerically controlled (NC) machines. The majority of the Defense-owned plants are 35 to 40 years old. And it is even more disturbing that we continue to rely on this dated and inefficient equipment to produce and maintain our modern sophisticated defense systems.

Although the Defense Department has a policy that calls for systematic modernization of their industrial resources, adequate funding has not been available. Each year funds for this effort receive a relatively low priority. The 1980 Defense Science Board study on "Industrial Responsiveness" analyzed this problem and made the following recommendations:

> To upgrade the base in a reasonable time, a significant one time replacement of 25% of the acquisition value (plus inflation) of the base be done. Following that step, selective modernization at the rate of 5% per year should be continued. Many of the tools should be disposed of now and funds generated from their disposal put in a revolving fund to buy new tools.[3]

The Defense Industrial Reserve Act of 1973 (PL 93-155) requires the Secretary of Defense to maintain an essential nucleus of government-owned industrial facilities to meet current and emergency defense production requirements. Currently there are approximately 12,000 machine tools in this reserve that are used to support current acquisition programs and are available to support surge/mobilization requirements. The average age of this equipment is 25 years. There are an additional 20,000 machine tools in Plant Equipment Packages that are planned to be reactivated in the event of mobilization. This equipment has an average age of 27 years and a large portion of this inventory has been in storage for 20 or more years without any active use. Much of it is, no doubt, inoperable.

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[3]Report of the Defense Science Board 1980 Summer Study on Industrial Responsiveness, January, 1981 P. 72.

A major concern is that the Department of Defense is depending on these tools in the event of an emergency. Due to funding limitations, only small investments have been made in the past 15 years to modernize these assets, therefore, today's DoD owned industrial base does not fully comply with the intent of the Public Law -- to maintain an adequate reserve of industrial resources that can rapidly and efficiently respond to DoD requirements in an emergency.

IV. DEFENSE DEPARTMENT INITIATIVES

The initial actions the Department of Defense has taken to improve the productivity and responsiveness of the defense industrial base are commendable. The initiatives to improve program stability by greater use of multi-year contracting will encourage capital investment and provide for more efficient production. I understand that the Defense Department expects to ultimately save 10% to 20% in the unit cost of its equipment by proper use of this technique. You, Mr. Chairman, are to be commended for your leadership in achieving this important procurement reform.

The actions the Department of Defense has in process to streamline its acquisition procedures and reduce the red tape of defense contracts will help to keep industry in the defense business and will encourage new suppliers to come in.

Considering the fact that manufacturing represents approximately 70% of the initial cost of a defense system, DoD's actions to improve manufacturing technology within the defense industrial base and its plans to modernize its overaged machine tools is essential.

As you and your colleagues in the Congress consider cuts in Defense spending, I hope the Machine Tool Modernization Program and the DoD Manufacturing Technology Program are not targeted for reduction or postponement, for these programs are essential if we are to improve the productivity and responsiveness of the defense industrial base and reduce defense costs. In point of fact, reduction or postponement of these two programs will ultimately result in increased costs of all defense systems.

V. IMPORTANCE OF INCREASED PRODUCTIVITY

Many Americans are beginning to seek real answers to the reasons for the decline in U.S. competitiveness and for our economic problems. They are beginning to ask: why our quality of life is deteriorating; why we are losing our ability to compete in the world marketplace; why we are experiencing high inflation; why we have such high unemployment rates; why our interest rates are so high and many other difficult questions. We believe the key answer is declining U.S. productivity.

The U. S. government itself has a productivity problem in the areas where it is involved in metalworking. For instance, the Department of Defense has over 800 Carlton radial drills either in active use or in inventory. Because of advances we have made in drilling technology, these machines are only 10% to 20% as productive as a current machine. The government could bring these machines up to the 100% level of a new machine by re-manufacturing these drills for a little more than half of the price of new equipment. But in this area, as in many other areas of

technology, government purchasers are not kept abreast of what is new. I personally feel it would be very useful if government purchasing people would visit U.S. machine tool plants on a regular basis so that they could be aware of the current state of the art.

The depreciation reform component of the President's economic recovery program should go a long way towards providing the capital necessary for American industry to modernize and become more productive.

Instead of a national commitment and cooperative effort between government and industry to solve the problem, an adversary relationship has existed in the past. We have been enacting more laws and regulations, often siphoning off dollars that could be used to improve our products and our productivity. This is opposite to the cooperative relationship that exists between government and industry in other industrialized nations that we must compete with in the international marketplace.

Another problem that contributes to this situation is the general lack of understanding by our country's leadership of the importance of the manufacturing industry in our economy. The manufacturing segment is the major wealth producing activity in industrialized nations today. Services account for over 50% of the GNP in this country, however, the service sector is not a direct wealth producer. Manufacturing provides 2/3 of the total wealth producing activity in the U.S.

The steady decline in American productivity in the last 10 years endangers our ability to generate new wealth at home

and undermines our competitive position abroad. Unless prompt concerted action is taken by government, industry and labor to reverse this trend, our children may well be the first generation of Americans who will not live better than their parents.

VI. SUMMARY

Compared to other industries, the American machine tool industry is very small. Our industry contains a large number of very small businesses. There are only nine establishments with 1,000 or more employees and only 36 employ 500 or more.

In addition to the unique industry structure, other major factors influence the industry and its ability to respond to mobilization.

The highly cyclical demand for machine tools limits our industry's decisions to invest in expansion of capacity. In spite of this, the machine tool industry has increased capital investments 30% per year for the past five years. However, this is insufficient to meet mobilization requirements or to compete with some of our foreign competitors, especially Japan.

We must provide a tax system that will promote the capital investments that are needed to quickly improve America's lagging productivity. The tax legislation recently adopted by the Congress will help accomplish this result.

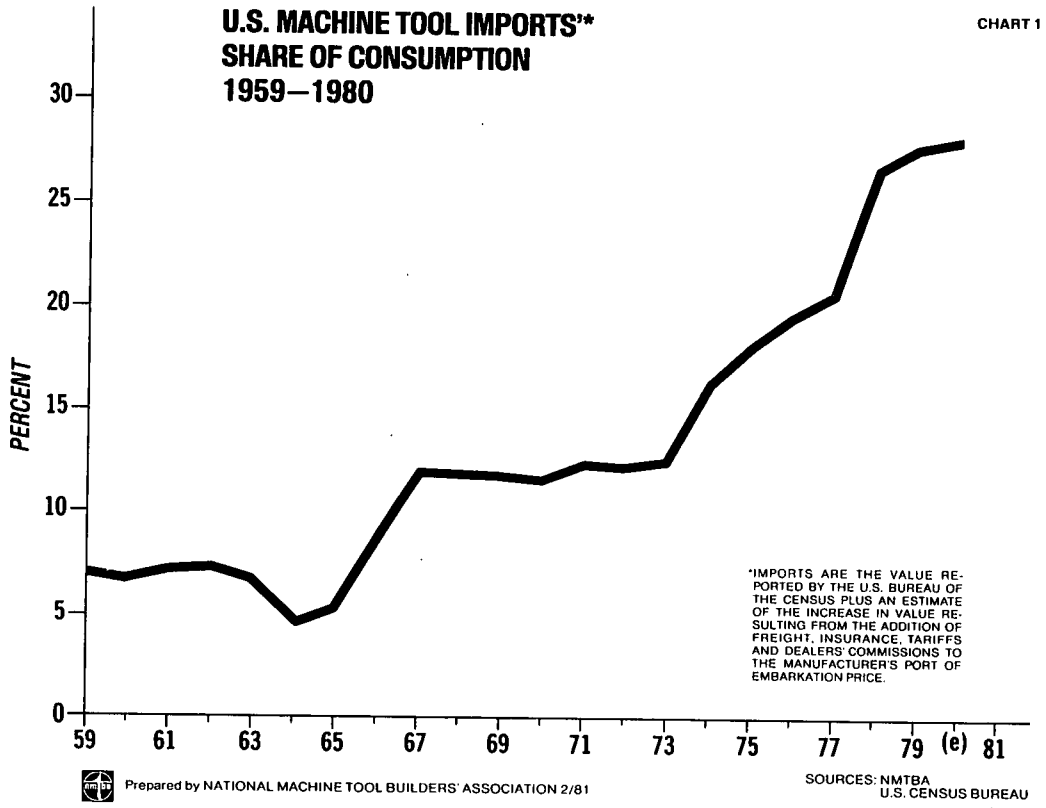
We should encourage the U.S. government to buy machine tools the way private industry does because the equipment would cost less and the government would get more for the money they spend.

Another thing I think would be useful would be the appointment of industry experts to advise the government purchasing people on the current state of the art in technology, perhaps even a throw-back to the old $1.00 a year man.

The one thing that the government must not do during these difficult times is sell off their surplus inventory of machine tools. This would further depress our already slow market and cause serious problems for this small but vital part of the U.S. economy.

An increase in U.S. manufacturing productivity will have a tremendously beneficial impact on the standard of living of the American people. Our sagging productivity is a major cause of America's economic stagnation, and a major contributor to inflation. Cost reductions in manufacturing products are best achieved through better machines, equipment and tooling.

The steady decline in American productivity the last 10 years endangers our ability to generate new wealth at home and undermines our competitive position abroad. With prompt concerted action taken by government, industry and labor to reverse this trend, we can do the job.


U.S. MACHINE TOOL IMPORTS'*
SHARE OF CONSUMPTION
1959—1980
CHART 1
PERCENT
30
25
20
15
10
5
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59
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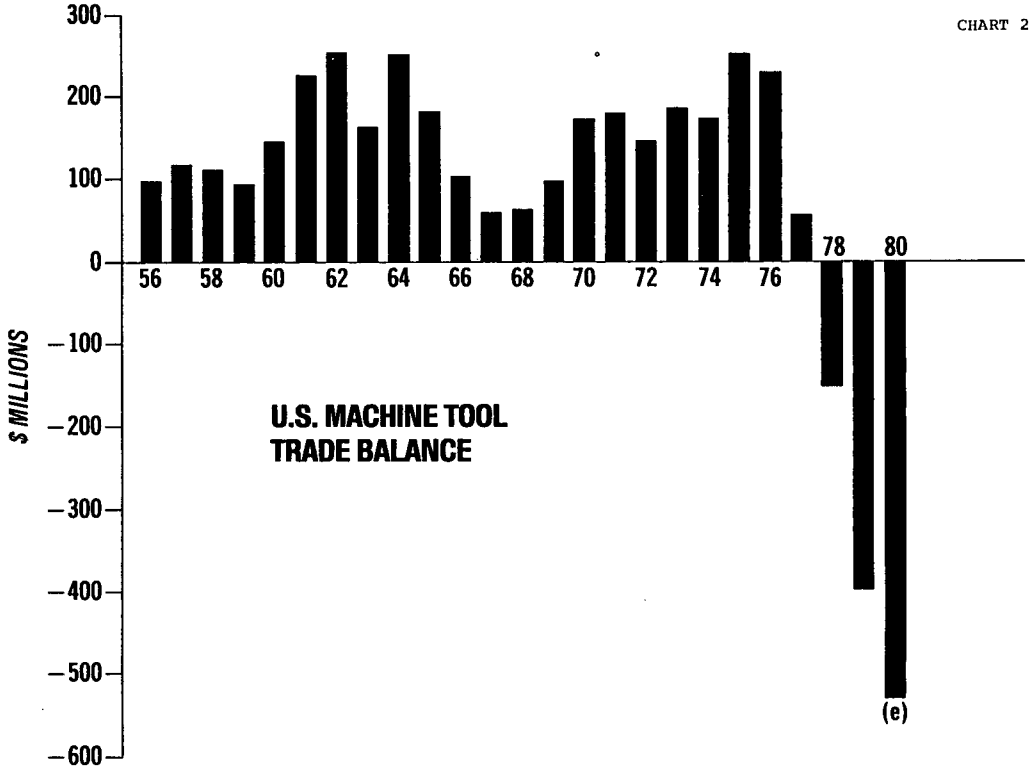
*IMPORTS ARE THE VALUE REPORTED BY THE U.S. BUREAU OF THE CENSUS PLUS AN ESTIMATE OF THE INCREASE IN VALUE RESULTING FROM THE ADDITION OF FREIGHT, INSURANCE, TARIFFS AND DEALERS' COMMISSIONS TO THE MANUFACTURER'S PORT OF EMBARKATION PRICE.
Prepared by NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION 2/81
SOURCES: NMTBA
U.S. CENSUS BUREAU



Prepared by NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION 2/81

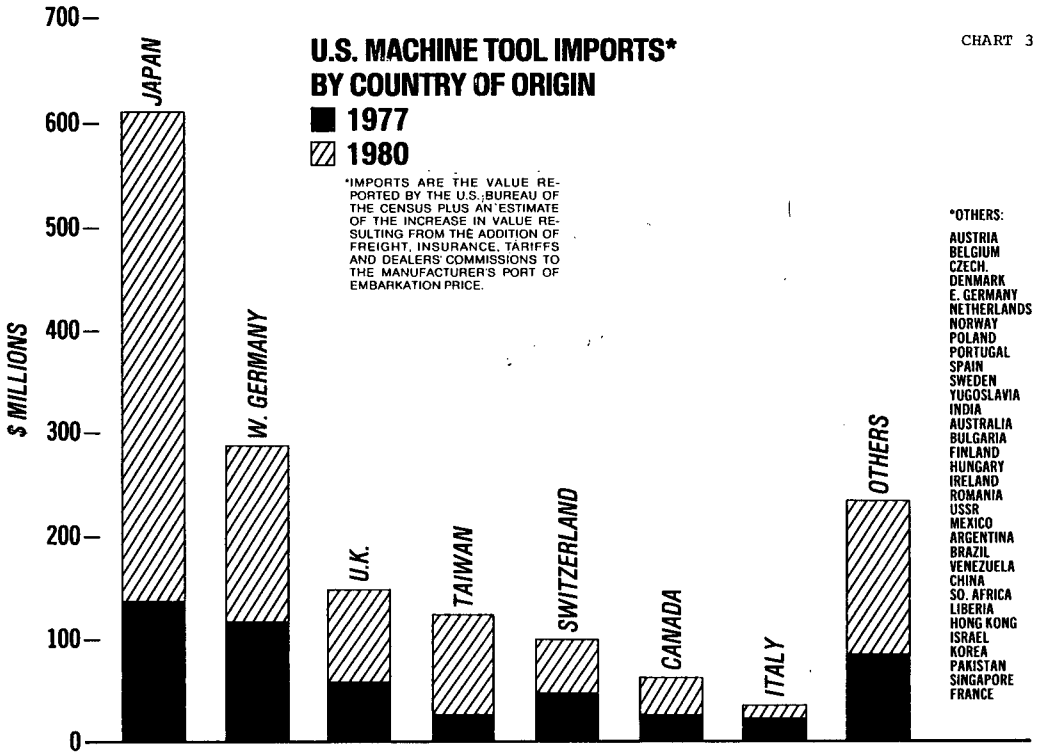
SOURCES: NMTBA
U.S. CENSUS BUREAU

CHART 3

U.S. MACHINE TOOL IMPORTS* BY COUNTRY OF ORIGIN

■ 1977
▨ 1980

*IMPORTS ARE THE VALUE REPORTED BY THE U.S. BUREAU OF THE CENSUS PLUS AN ESTIMATE OF THE INCREASE IN VALUE RESULTING FROM THE ADDITION OF FREIGHT, INSURANCE, TARIFFS AND DEALERS' COMMISSIONS TO THE MANUFACTURER'S PORT OF EMBARKATION PRICE.



*OTHERS:
AUSTRIA
BELGIUM
CZECH.
DENMARK
E. GERMANY
NETHERLANDS
NORWAY
POLAND
PORTUGAL
SPAIN
SWEDEN
YUGOSLAVIA
INDIA
AUSTRALIA
BULGARIA
FINLAND
HUNGARY
IRELAND
ROMANIA
USSR
MEXICO
ARGENTINA
BRAZIL
VENEZUELA
CHINA
SO. AFRICA
LIBERIA
HONG KONG
ISRAEL
KOREA
PAKISTAN
SINGAPORE
FRANCE

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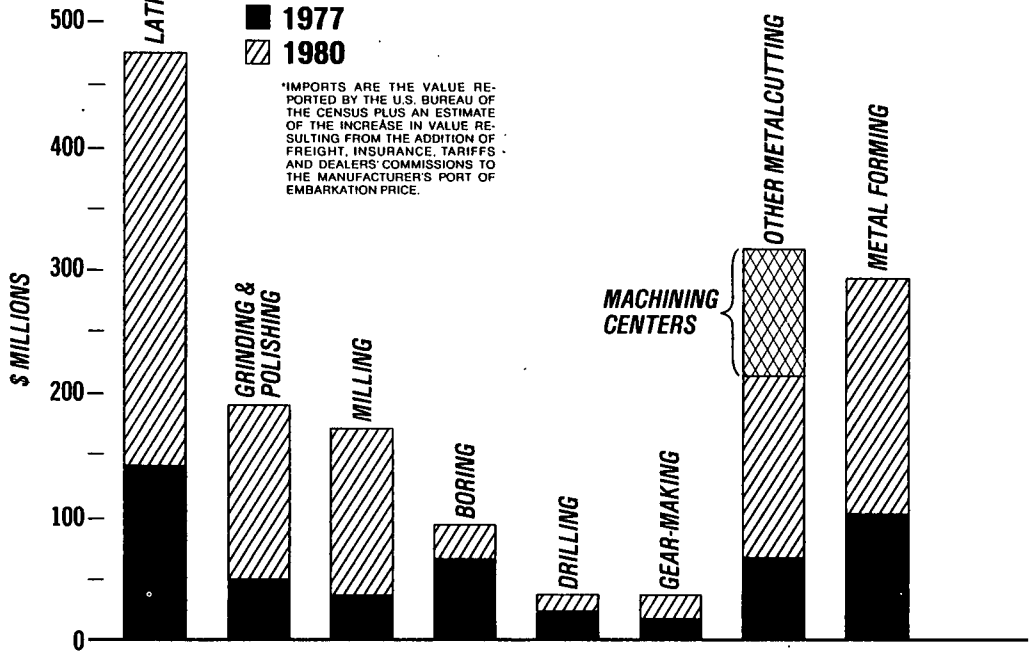
SOURCES: NMTBA
U.S. CENSUS BUREAU

U.S MACHINE TOOL IMPORTS* BY MACHINE TYPE

■ 1977
▨ 1980

*IMPORTS ARE THE VALUE REPORTED BY THE U.S. BUREAU OF THE CENSUS PLUS AN ESTIMATE OF THE INCREASE IN VALUE RESULTING FROM THE ADDITION OF FREIGHT, INSURANCE, TARIFFS AND DEALERS' COMMISSIONS TO THE MANUFACTURER'S PORT OF EMBARKATION PRICE.



Prepared by NATIONAL MACHINE TOOL BUILDERS' ASSOCIATION 2/81

SOURCES: NMTBA
U.S. CENSUS BUREAU

Japanese Export Statistics EXHIBIT 1

1975 - Japan's top ten machine tool export markets comprised 69.3% of the value of total exports. These were:

	Country	(millions of dollars) Value of Exports	% of Export Total
1)	USA	$47.3	22.8%
2)	Rep. of Korea	27.7	13.3
3)	PRC	10.7	5.2
4)	Brazil	10.4	5.0
5)	Taiwan	10.1	4.9
6)	Australia	8.4	4.0
7)	W. Germany	8.2	3.9
8)	Sweden	8.0	3.9
9)	U.K.	7.9	3.8
10)	Singapore	5.3	2.6
		$144.0	69.3%

1975 exports were 26.7% of Japanese production.

1980 - Japan's top ten machine tool export markets comprised 77.9% of the value of total exports. The top ten were:

	Country	(millions of dollars) Value of Exports	Growth*	% of Export Total
1)	USA	$471.1	58%	39.6%
2)	W. Germany	99.3	65	8.4
3)	U.K.	64.4	52	5.4
4)	Rep. of Korea	55.1	15	4.6
5)	USSR	53.4	34	4.5
6)	Taiwan	51.0	38	4.3
7)	S. Africa	39.5	57	3.3
8)	Belgium	34.4	NA	2.9
9)	France	28.9	NA	2.4
10)	Australia	28.5	28	2.4
		$925.6	45%	77.9%

1980 exports were 39.5% of Japanese production.

* Average annual growth rate for years 1975 to 1980.

Source : Japanese Tariff Association

Spring 1981

Senator JEPSEN. Thank you, Mr. Moran. Congressman Brown.

Representative BROWN. Thank you, Mr. Chairman.

Mr. Moran, I'm interested in particular in the dollar-a-year man thing that you mentioned because it seems to me that picks up on the theme that both previous witnesses have indicated might be helpful, and that is getting real life input into the whole defense process as it relates to the machine tool industry and the private suppliers for the defense industry or the defense needs of the country generally.

If I could draw an analogy—and they are always bad, but it seems to me that this is a fairly narrow margin of industry that you're talking about here in your particular case, a little bit like the ocean coast in the environmental field, that a lot of things are generated out of the machine tool industry, the capacity to produce other goods and even probably produce some services, and that it ought to be preserved in some way.

Could such a dollar-a-year man or dollar-a-year committee make specific proposals to the defense acquisition parts of the Federal Government to help save that industry and improve it?

Mr. MORAN. Congressman, I think that the expertise in industry in our case has more expertise in private industry than there is in DOD. The advances in machine tool technology have been tremendous in the last 20 years and increasingly, more and more, with the advent of the numerical controlled computer and the DNC systems.

Representative BROWN. You haven't used the word robotics. Is that in the picture?

Mr. MORAN. No. Robotics is a different area of which the machine tool industry is getting deeply involved. The state-of-the-art to this point is not such that it is viable on an every day or every company or every situation basis. I think we are probably 5 years away from it being viable commercially. But people in the Defense Department I don't believe are abreast of the latest technology in the machine tool industry. This all relates back to that the machine tool industry makes the equipment used to make all the parts to build a ship, to build an airplane, to build a tank, to build whatever, and if the Defense Department can improve their productivity, the whole weapons systems that you're looking at and funding through Congress could be made less expensive.

Representative BROWN. You used the line that I thought about for sometime too. You said we should encourage U.S. Government to buy machine tools the way private industry does because it would cost less and the government seems to have no depreciation schedule or no schedule by which it lays aside a piece of equipment or an item and uses a replacement schedule for that material. I have often thought that at Wright-Patterson Air Force Base, which is in my district, that the best place for them to steal a little money if they don't get the budget they would like to have, is in the maintenance and repair and replacement of equipment that they need, and then all of a sudden you find out there's a building about to fall down or it's actually leaking from the roof on somebody's computer, and it doesn't seem to be the best way to operate from a "business" standpoint.

Is that what you had in mind with that comment or do you have something else in mind?

Mr. MORAN. That's exactly what I had in mind with that comment. The industrial base in the machine tool area is totally obsolete to produce a weapons systems that we are producing today, especially if you have an emergency.

Representative BROWN. Is there a way in which an accounting system could do that or is that a technical kind of responsibility or both? I'm inclined to think maybe we could do something business-like with the accounting system of the Defense Establishment and we may be able to take care of it some how that way, or is it fully a technical state-of-the-art question?

Mr. MORAN. I think it's both, Congressman. The accounting system would help to focus on certain specific machine tools in a particular plant, but then it's also got to be reviewed from the standpoint of is it technologically to date as of today.

Representative BROWN. I don't know how to ask this question really, but there are some companies in the machine tool field that are almost retail or consumer goods producers. I think of those that make for small shops or for shops that don't require very heavy equipment. Is most of your work in the heavy equipment area or in the heavy production area?

Mr. MORAN. At Carlton, all of our work is in heavy production.

Representative BROWN. Is there a distinction between those two and the incursions that foreign producers have made in the market? In other words, are the statistics that you gave us only for the heavy equipment market or are they in the light machine tool industry market or in both?

Mr. MORAN. They're in both and just as heavy in the heavy sector as the so-called light sector.

Representative BROWN. How are we doing with reference to other oversea markets with U.S. machines? Have we lost those markets?

Mr. MORAN. In the Western World, no.

Representative BROWN. You mean Europe now primarily?

Mr. MORAN. In Europe, yes.

Representative BROWN. Well, we're saying yes and no and we're not getting it clear on the record. Are we selling American made equipment, machine tools, into Europe successfully or are we just selling them to developing countries or where is the major loss to the Japanese market? I gather it is in the automobile market, for instance.

Mr. MORAN. I can't answer that question right now. We will supply some background and put it in the record.

Representative BROWN. If the industry could get us some material for the record, I think it might be helpful because I suspect that maybe, like other markets, that the Japanese have foreclosed us in their markets and built their capacity for production on the Japanese market and then taken on other markets, and that we may be left to the market for machine tools that exists in Zaire or someplace else that the Japanese haven't gotten to yet.

Mr. MORAN. We will get this information for you and submit it for the record.

[The following information was subsequently supplied for the record:]

In order to best demonstrate where the U.S. machine tool industry is losing its exports markets to foreign competitors it is instructive to examine the U.S. Department of Commerce "Market Share Reports". These reports itemize the

export of a wide variety of commodities from the fourteen major industrial countries (the U.S. Canada, Western Europe and Japan) to over one hundred different countries around the world. Exports of a commondity to a given country are totaled for the fourteen nations. From this total it is possible to calculate the market share of each of the nations that exported the product to the country in question.

From these Market Share Reports, which are currently available only through 1979, one can see that Japan has rapidly moved to a position of worldwide strength in the export of machine tools. Going back five years to 1974 reveals that U.S. machine tool firms' exports comprised 12.6 precent of the fourteen nation total while Japan's builders held a 7.9 percent share. By 1979 there had been a dramatic change. Japan held a 16.5 percent world market share while U.S. export total had fallen to 9.2 percent.

There are, of course, reasons behind these trends. The most important factor appears to be that the Japanese firms exporting machine tools did so with great vigor, careful planning and a comprehensive marketing program. It is fair to say that the Japanese did well in practically every market they entered.

While the Japanese were aggressively pursuing these export markets, American builders were faced with booming domestic demand and capacity limitations that saw order backlogs rise to unprecedented levels. That is, just as the Japanese were moving out into the world market, American firms were faced with a strong domestic market; a market which made them relatively less export-intensive.

The best way to demonstrate the impact of these trends is to review comparative U.S.-Japan market shares in various countries during the past few years. The table below is a selection of major machine tool buying nations and depicts the change in market positions of the U.S. and Japan during the 1974–79 interval.

Export destination	Market share [1] (in percent)			
	1974		1979	
	United States	Japan	United States	Japan
West Germany	10.4	4.8	5.9	15.4
France	4.5	.6	6.5	3.2
United Kingdom	14.4	3.3	16.7	8.9
Canada	64.3	4.1	58.1	7.6
Brazil	18.9	6.9	13.0	11.8
Spain	4.9	1.4	5.0	1.9
India	5.2	7.1	6.1	10.9
Saudi Arabia	9.5	2.0	32.7	16.3
U.S.S.R.	15.2	8.6	1.1	7.3
World	12.6	7.9	9.2	16.5

[1] Percentage of the value of total machine tool exports of the 14 leading industrial nations to the destination listed.

Representative BROWN. I appreciate that. My time is up. Mr. Chairman, I may want to ask the witness another question later.

Senator JEPSEN. Thank you. When the U.S. Government buyers purchase new machine tools, is their business the most cost effective or the cheapest?

Mr. MORAN. The cheapest, the less expensive.

Senator JEPSEN. How serious are the dangers on relying on foreign sources for our machine tools in the defense industry?

Mr. MORAN. In my opinion, very serious. The situation that we at Carlton were involved in, in the XM–1 was a machine line to manufacture or make the turret for the XM–1 tank which we lost to a Japanese company. Japan is in the proximity of the People's Republic of China and it's also I believe not very many distant miles from the U.S.S.R. If Japan were taken over in the event of a conflict and we lost a supply, there are certain component parts of that machine complex that makes the XM–1 turret that if they were damaged could take as much as 18 months to repair those machines,

and I understand that the component parts prints are in the Defense Department's hands, but it doesn't alleviate the problem if a particular component part were to fail, if they didn't have the country of Japan, and didn't have free position where they could get that piece of repair part, that it could take up to 18 months to get that machine running again.

Senator JEPSEN. What's the current status of the Department of Defense machine tool modernization program? I have detected from what you said that it's improved somewhat. Or has it?

Mr. MORAN. Could I let Mr. Downer answer that for us?

Mr. DOWNER. Yes, sir. Recognizing that most of the tools we have in the Defense Department are of the age Mr. Moran stated, 25 years old, the Department of Defense has initiated a modernization program, especially in their so-called organic facilities; in other words, their air logistics centers, their shipyards, arsenals, and so forth; to modernize these machines.

For money that's programed for actions like this, each time the defense budget has some projected or planned cut, as is going on right today, all too often that is the first area where the cuts are made. We tend to take the short-range approach, we can't buy the weapon systems we need with limited dollars because they cost too much, and if we continue to do this the defense systems are going to continue to cost too much. In today's situation, the money that was planned for this modernization program is subject to being cut back with the planned cuts in the defense budget.

Senator JEPSEN. Do you have something else at this time?

Representative BROWN. I would just like to ask the panel—I'm going to have to leave, Mr. Chairman because of a pending obligation on the House side—if they would at some point—and I realize this may be a little embarrassing and they might not want to discuss it publicly—but if we could get some information so we could verify something that we have stated and none of you have stated yet this morning, and that is how severely has inflation distorted your projections of real after tax profits and to what extent has this retarded capital formation in your industry?

We'll give you a note on this, and then another question is, About what percentage of your company's earnings goes toward interest payments? In other words, where you have financial obligations to somebody, which is a loss of reinvestment or research opportunities—and I don't mean your specific companies—if you could get us an overall statement for the industry, that would be helpful.

And then finally, Mr. Moran, you observed that the new capital cost recovery system will help increase capital formation and productivity growth. Could you explain how this system could be improved and what other measures might be useful, if you have that opportunity, and I'd like to get that from any of the other panelists too, how it can be helped, how we can tune it up a little better so in this particular field we're getting the greatest impact.

Then finally, there's just two questions that have not been addressed by this group yet and that is the disturbance in the labor industry and the question of our dependence on foreign sources for critical raw materials that are part of the whole military process. Maybe others

will testify to this. I hope they will. If not, I would like to get some comments on that.

Senator JEPSEN. Fine. Mr. John E. Fogarty, president, Standard Steel Co., Burnham, Pa.

STATEMENT OF JOHN E. FOGARTY, PRESIDENT, STANDARD STEEL CO., BURNHAM, PA.

Mr. FOGARTY. Standard Steel is pleased to respond to your invitation to testify at this formal hearing on industrial preparedness, which is part of the overall effort by the Joint Economic Committee of Congress to characterize that problem. That invitation questioned what specific equipment modernization programs and/or Government policy alterations would usefully enhance the "preparedness" of our company.

First, a brief introduction to Standard Steel and second, opportunities to optimize the preparedness of Standard Steel.

Founded as a small frontier forge, Standard Steel is unique in the annals of American business. Prudent applications of advancing technology and evolving philosophy, as well as its exposure to the social, economic, and political conflicts that have confronted our Nation for over 170 years, have transformed our pioneer company into one of today's foremost integrated producers of heavy machined forgings.

It all began in 1811. Eli Whitney had just invented the cotton gin and the "impressment" of American sailors foretold of "things to come." Conestoga wagons were rumbling westward across the Appalachians to push expansion beyond the Ohio Valley, and, though James Watt's steam engine was gaining acceptance, America's first railroad was still 30 years away.

Early in the 19th century, two events helped to insure the company's future. The first was the Pennsylvania Canal. In 1829, creeping to within 3 miles of the plant, it began providing transport to broader markets. Then, within 23 years, the forge was linked to both Philadelphia and Pittsburgh via the arising Pennsylvania Railroad. Participation in America's industrial revolution thereby became an inescapable, exciting reality.

Its development since is articulated in the attachment entitled "The Standard Steel Story," which you have.

Today, Standard Steel has 76 acres "under roof," employs 2,500 people and can produce 350,000 tons of electric furnace quality steel a year; primarily for use in its own manufacturing operations. Those operations include:

(a) One of the largest open-die press forging (5,000/1,500 tons) and hammer forging complexes (12,000 pounds) in America for the production of a wide variety of heavy industrial parts and shafting.

(b) The most cost-effective, large, modern ring-mill in the country for the production of jet engine rings, heavy duty bearing races and pipeline flanges.

(c) The largest, computerized "automatic forging machine" system in existence in the world for the production of railroad axles.

(d) The largest U.S. facility for cost-competitively producing forged railroad wheels.

In summary, Standard Steel is an integrated, internationally cost-competitive manufacturer of a broad range of machined forgings. It responds to the invitation to appear here not with hat in hand, but in hopes that it can contribute to your effort to enhance the industrial preparedness of our Nation. This commentary will be directed toward matters that pertain exclusively to Standard Steel; though the presentation will often reflect a broader perspective.

The following specifically describes Standard Steel's broad participation with industries that our country depends upon for its defense.

For example, it is America's only integrated source of jet engine rings. It also provides forgings for a wide range of missiles, including the Titan III, the MX, the Polaris, and the Poseidon; and for military tanks such as the M–60 and M–109.

It has provided large special diameter bearing race rings for our Nation's early warning system. For our nuclear submarines it provides an array of critical components, including parts for forged pump bodies and rolled rings for the nuclear power unit, and it provides rolled rings and open die forgings for the oil industry. And it is the only U.S. manufacturer of both railroad wheels and axles, supplying nearly 20 percent of our Nation's demand for these products.

During periods of national emergency, the manufacturers of steel products must be expeditiously provided with large amounts of an infinite variety of grades, types, and sizes of steel. That creates an enormous logistical problem. Standard Steel, however, manufactures its products from steel that it makes itself. We melt carbon steels, alloy steels, stainless steels, and nickel-base alloys. They are produced by the high quality electric furnace method using, as required, such special systems as vacuum degassing, vacuum arc-remelting, and argon-oxygen refining.

In summary, Standard Steel is an especially unique manufacturer of a broad line of machined defense forgings because it provides its own steel.

Opportunities do exist to enhance the preparedness of Standard Steel. Like much of America's mature capital-intensive industry, it has had to bear the burden of internationally noncompetitive tax depreciation laws since World War II. Until just recently, for example, we were required by law to take 5 to 10 times longer than our foreign competitors to recover money spent for modernization. The sooner laws allow invested capital to be recovered via depreciation, the sooner it can be reinvested in other new equipment. Therefore, whereas foreign companies were reinvesting and reinvesting and reinvesting, the investment capital of U.S. companies was tied up years longer by our internationally noncompetitive tax laws.

In Canada, for example, where a new integrated steel mill has just been built, tax laws are allowing that investment to be recovered in 1½ years. The United States, until just recently, required 12 years. Accordingly, there hasn't been a new integrated steel mill built in the United States for over 20 years.

Obviously, such internationally noncompetitive tax burdens restrict the ability of capital intensive industries to generate the funds required to modernize or replace equipment. Such policies have impaired productivity; which in turn impaired competitiveness; which

detracted from earnings; which further reduced industry's ability to modernize. A vicious circle.

Accordingly, though Standard Steel was able to renew much of its primary equipment over the years, it generated insufficient funds to also replace its critically important auxiliary facilities. Though the new depreciation legislation will minimize such problems in the future, we do have years of "catching up" to do. More specifically, 90 of our 160 heavy duty plant cranes are over 60 years old. They cost an average of over $350,000 each. Similarly, 38 of our 73 vertical boring mills, where technological advancements have been brisk in recent years, are over 30 years old. They cost near $750,000 each. Just replacing those units would cost $60 million. Even with the new tax law, such will require many years for a company of our size to accomplish.

Whereas, one can live with the extraordinary requirements of such old equipment when working 5 days a week, because maintenance can be performed on weekends, national emergencies require such equipment to work dependably 7 days a week.

Such needs to renew defense-related industrial equipment might be accommodated by the Government using title 3 of the Defense Production Act, which currently is being considered for extension by the Congress, or, by replacing Government equipment in "defense plants." In the latter case, the Government could rent such equipment to the defense plant for other than defense when it was not being used for that purpose. Such programs are not new. Two Government vertical boring mills were installed in 1962 at Standard Steel for armored tank turret ring production. Though these mills should now be replaced to accommodate current tank programs, they did provide a credible national service for many years.

In conclusion, certain capital-intensive defense industries will require help if they are to be called upon to modernize obsolete equipment upon which we would have to depend in national emergency.

With regard to new equipment, I recently had the opportunity to visit the armory at Watervliet, N.Y. It owns and operates the only automatic forging machine in the United States that can produce artillery gun barrels. An unsolicited question was posed. It involved the armory's concern about automatic forging capacity in time of national alert and whether our automatic forging machine would be available to produce 105- and 120-millimeter gun barrels. Though our facility was not equipped to make gun barrels, an expenditure of less than $1 million would accommodate that deficiency. This might be considered a cost-effective Government investment on behalf of national preparedness.

A similar deficiency relates to the U.S. capacity for vacuum arc remelting. This refining system is absolutely essential in the production of high purity steel, nickel-base alloys, and titanium metals for the aerospace industry. Just 2 years ago, prior to the current temporary lull in jet engine and airframe manufacturing, our VAR facilities and those of the entire industry were operating at capacity. In spite of that, they constituted a bottleneck to the productive capacity of the entire aircraft industry. This national capacity shortcoming could profoundly limit industrial responsiveness in time of national emergency.

Again, it might be prudent in terms of industrial preparedness to consider installing appropriate Government equipment in defense plants on a full "rental-payback" basis.

The availability of strategic materials is also of concern. Secretary of State Haig has mentioned the fact that several strategically important minerals are to be found only in faraway lands; minerals for which no substitute has been developed.

For example, chromium. It's indispensable in the steel industry's and Standard Steel's manufacture of stainless and alloy steel. Unfortunately, this country has virtually no indigenous chrome. Most of the world's reserves lie in the Republic of South Africa, and Zimbabwe, the former Rhodesia.

And manganese, without which we couldn't even make carbon steel, here again, the United States is import-dependent. The U.S. Bureau of Mines estimates that southern Africa contains 40 percent of the world's supply of manganese and the Soviet Union 50 percent.

Without those imported minerals and others such as cobalt and platinum, you couldn't build a jet engine, a missile, an automobile, and oil refinery, a computer, or a powerplant. Neither could you process food or run a hospital operating room in compliance with modern standards of sanitation.

Fortunately, in the closing weeks of the last Congress, our lawmakers passed what is formally known as the National Materials and Minerals Policy, Research and Development Act of 1980. That legislation should enable us to:

One. Provide a coordination mechanism, under the President, with the full authority to cut across departmental jurisdictions in the interest of implementing a consistent minerals policy. It has been estimated that more than 20 different agencies and dozens of different laws have been involved in that task. Such nonproductive confusion must be abolished.

Two. Provide impetus to internationalize the responsibilities of the U.S. Bureau of Mines. The data base provided by the Bureau in this country is excellent, but the minerals problem is worldwide with international overtones.

Three. Provide a reassessment of our present defense stockpile; much of which is over 25 years old and which is valued at about $12 billion. That study should compare quantity, quality, and mix with the demands of today's technological and materiel needs. Should we not, for example, stockpile more ferrochromium than chrome ore now that a large part of our Nation's capacity to smelt ferrochrome has been undermined?

Four. Provide a method for monitoring ferrous scrap exports. This constitutes another strategically significant item because 27 percent of all the steel domestically produced during 1980 depended upon the availability of iron units from ferrous scrap. Because ferrous scrap exports were 31 percent greater during the past 3 years than those of the preceding 3 years—11 million tons in 1979 and 1980—and, because 36 percent more scrap were required per ton of domestic steel produced in 1980 than was required in 1975 and 1976, the Department of Commerce has been asked to monitor ferrous scrap exports. The provisions of the Export Control Act could be used. Such action would at least provide a foundation for the administering of export controls when the shortage does develop. The fact that ferrous scrap availability can be

deficient is reflected by the leap-frogging of scrap prices every time the domestic-foreign monthly demand for scrap approaches 4.3 million tons. Demands during periods of international emergency would obviously be greater.

In conclusion, the stockpiling and availability of strategically limited items must be professionally managed if we are to integrate their scarcity of supply with our goal of national preparedness.

With regard to government policies, our Government should provide equitable protection for our railroad wheel producing industry, an absolutely essential contributor to national defense because American railroads must be able to carry any all-out military effort. Instead, the railroad wheel industry has been left naked of all duty protection. Consequently, it is internationally noncompetitive. Standard Steel, for example, would have to pay a 17-percent duty on wheels it shipped into Canada. The net effect is that Canadian wheel producers can sell into the U.S. market because there is no U.S. duty to pay, but we can't afford to sell our wheels to Canada because we have to pay a 17-percent duty. Inplicit in that typical scenario is also a displacement of key American labor and productive skill.

To add insult to injury, our Government even removed railroad wheels from the original trigger price list because the single Japanese wheel producer refused to submit their costs to our Treasury Department. As Japanese costs are the basis of trigger prices, lackluster leadership in our bureaucracy accommodated the Japanese wheel producer at the expense of the American wheel producers by just dropping wheels from the trigger price list altogether.

As a result of such policies, railroad wheel imports increased 400 percent between 1976 and 1980, in spite of the fact that market growth for railroad wheels in the United States between 1976 and 1986 is projected to be only 25 percent over the 10-year period beginning in that same year. Again, key American labor and productive skill is being displaced.

Recently, however, with the help of Senator Heinz and a new attitude at Commerce—now in charge of trigger prices—greater recognition of the problem has been effected. Two recent letters to Commerce are attached to more fully describe this specific problem.

In summary, Government must provide internationally competitive support if certain of its defense-related industries are expected to be maintained in a state of preparedness.

A similar undermining of strategic segments of American industry is caused by Government directives involving unnecessary, nonproductive environmental burdens; a classical example of which was recently imposed upon Standard Steel. In self-defense, Standard Steel conducted air quality tests around its Burnham plant for an entire year. The results showed that the huge sums it had already spent on air quality was providing the area with an air quality level that was far superior to the legislative requirement. In fact, the air was some of the cleanest in the country. In spite of that program and its results, with which our regulatory friends formally concurred, Standard Steel was still ordered to spend hundreds of thousands of dollars to improve air quality even further, to a level perhaps even better than excellent and surely far in excess of the legal requirement.

Would not Standard Steel and the people, environmental laws were designed to protect, be much better if Standard Steel could instead use those funds to buy new cranes or vertical boring mills? That would have enhanced the company's cost competitiveness, its preparedness to support any defensive effort, and the employment security of our "one-company" town. Such purchases would be much more contributory than the marginal benefit to be gained from the new air quality equipment Standard Steel must now buy.

Unfortunately, this is not a unique problem. A recent Arthur D. Little report reveals that much of the steel industry's justifiable cleanup job has been completed at a cost of $8.5 billion. During 1979 that increased the cost for all the steel America produced by $27 a ton. However, if Government's already programed demands are actually imposed through 1989, the results will: (a) Increase those environmental costs to $71 a ton; (b) reduce shipments by 9 million tons, because there will then be insufficient funds to increase steelmaking capacity; (c) add $4 billion to the trade deficit because more steel will have to be imported; (d) eliminate or dislocate 40,500 steelworkers and 121,500 steel-industry-related jobs; (e) annually increase steel industry energy consumption by the equivalent of 63 million barrels of oil; and (f) increase our Nation's state of unpreparedness by furthering our dependence on foreign steel, to perhaps 30 percent of just its commerical needs.

An official summary of that ADL report was supplied to the subcommittee.

In conclusion, Standard Steel has participated in the provision of armaments to our military forces since the War of 1812. It remains as resolved as ever that there is nothing more important for our Government to do than assure America's ability to defend itself against those that would destroy our way of life. Implicitly, therefore, it must logically protect and support that portion of its industrial complex upon which we must depend for national preparedness.

[The prepared statement of Mr. Fogarty, together with the attachments referred to, follow:]

Prepared Statement of John E. Fogarty

INDUSTRIAL PREPAREDNESS COMMENTARY

Standard Steel is pleased to respond to Senator Jepsen's invitation to testify at this formal hearing on Industrial Preparedness; which is part of the overall effort by the joint Economic Committee of Congress to characterize that problem. That invitation questioned what specific equipment-modernization-programs and/or government-policy-alterations would usefully enhance the "preparedness" of our Company.

Standard Steel's written response will be divided into two parts with four sections each according to the following outline:

A. Introduction to Standard Steel
   1. its history
   2. its credibility as a growing business enterprise
   3. its defense-industry participation
   4. its unique feature

B. Opportunities to Optimize The Preparedness of Standard Steel
   1. old equipment
   2. new equipment
   3. stockpiling of strategic materials
   4. modification of government regulations

AN INTRODUCTION TO STANDARD STEEL

ITS HISTORY

Founded as a small frontier forge, Standard Steel is unique in the annals of American business. Prudent applications of advancing technology and evolving-philosophy, as well as its exposure to the social, economic, and political conflicts that have confronted our nation for over 170 years, have transformed our pioneer company into one of today's foremost integrated-producers of heavy machined-forgings.

It all began in 1811. Eli Whitney had just invented the cotton gin and the "impressment" of American sailors foretold of "things-to-come". Conestoga-wagons were rumbling westward across the Appalachians to push expansion beyond the Ohio valley, and, though James Watt's steam-engine was gaining acceptance, America's first railroad was still 30 years away.

Early in the 19th century, two events helped to insure the Company's future. The first was the Pennsylvania Canal. In 1829, creeping to within three miles of the plant, it began providing transport to broader markets. Then, within twenty-three years, the forge was linked to both

Philadelphia and Pittsburgh via the arising Pennsylvania Railroad. Participation in America's industrial-revolution thereby became an inescapable, exciting reality.

Its development since is articulated in the attachment entitled "THE STANDARD STEEL STORY".

STANDARD STEEL'S CREDIBILITY AS A GROWING BUSINESS ENTERPRISE

Today, Standard Steel has 76 acres "under-roof", employs 2,500 people and can produce 350,000 tons of electric-furnace-quality steel a year; primarily for use in its own manufacturing operations. Those operations include:

a) one of the largest open-die press forging (5000/1500 tons) and hammer-forging complexes (12,000 lbs) in America for the production of wide variety of heavy industrial parts and shafting.

b) the most cost-effective, large, modern ring-mill in the country for the production of jet-engine rings, heavy duty bearing races and pipe-line flanges; and

c) the largest, computerized "automatic-forging-machine" system in the world for the production of railroad axles.

d) the largest U.S. facility for cost-competitively producing forged railroad-wheels.

In summary, Standard Steel is an integrated, internationally cost-competitive manufacturer of a broad range of machined-forgings. It responds to the invitation to appear here, not with hat-in-hand, but in hopes that it can contribute to your effort to enhance the industrial-preparedness of our nation. This commentary will be directed toward matters that pertain exclusively to Standard Steel; though the presentation will often reflect a broader perspective.

STANDARD STEEL'S DEFENSE INDUSTRY PARTICIPATION

The following specifically describes Standard Steel's broad participation with industries that our country depends upon for its defense.

Jet Engine Industry

Standard Steel is the only integrated source (metal producer, forger, machiner) of ring-mill products to this industry. Its markets include the following engine programs:

Engine		Aircraft In Which Employed
PW 2037	-	757 and Mil. Transport
F 100	-	F-15, F-16
JT3	-	707
J57	-	B52
JT8	-	727, 737, DC9
JT9	-	747, 767, DC10

Missile Programs

Titan III	-	Support rings, booster rockets
MX	-	Breech rings and nozzle flanges
Polaris	-	Launch tube support rings
Poseidon	-	" " " "
Trident	-	" " " "

Military Vehicles

M60 Tank	-	Turret rings and recoil sleeves
M1 "	-	" " " " "
M109 "	-	" " " " "
Personnel Carriers	-	Gun mount rings

Early Warning System

Special large-diameter bearing-race rings

Nuclear Submarines

Forged pump-bodies and rolled-rings for the nuclear power unit.

Rings and forged pinions for the propulsion drive assemblies.

Tube sheets for the heat exchanger units

Forged components for the Advanced-System pumps.

Launch tube support rings for the Polaris and Poseidon missile tube assemblies

Missile tube forgings

Petroleum Industry (rolled rings and open-die forgings)

Oil Exploration

1. Blowout preventer housings
2. Draw works brake rims
3. Mud pump gears and shafts
4. Sub sea service mandrels and hollow shafts
5. Oil-line pipe flanges
6. Down-hole tooling stock

Petroleum Industry (Continued)

Refining

1. Heat exchanger flanges and tube sheets
2. Platform flanges and rings

Power Generation Plants (open-die forgings and shafting)

1. Turbines, gears, pinions and shafting
2. Compressor mandrel forgings
3. Core baskets
4. Reactor vessel support rings

Railroad Industry

Standard Steel is the only U.S. manufacturer of railroad wheels, axles and assemblies; supplying nearly 20% of our nations demand for those products.

Airframe Industry

Vacuum-melted constructional alloy-steels for landing-gear, wing support and flap-track forgings for modern jet aircraft.

ITS UNIQUE FEATURE

During periods of national emergency, the manufacturers of steel products must be expeditiously provided with large amounts of an infinite variety of grades, types and sizes of steel. That creates an enormous

logistical-problem. Standard Steel, however, manufactures its products from steel that it makes itself. We melt carbon-steels, alloy-steels, stainless steels and nickel-base alloys. They are produced by the high-quality electric-furnace method using, as required, such special systems as vacuum degassing, vacuum arc-remelting, and argon-oxygen refining.

Standard Steel, therefore, is a unique manufacturer of a broad line of machined, defense-forgings because it provides its own steel.

OPPORTUNITIES TO OPTIMIZE THE PREPAREDNESS OF STANDARD STEEL

OLD EQUIPMENT

Standard Steel, like much of America's mature capital-intensive industry, has had to bear the burden of internationally non-competitive tax-depreciation laws since World War II. Until just recently, for example, we were required by law to take five to ten times longer than our foreign competitors to recover money spent for modernization. The sooner laws allow invested capital to be recovered via depreciation, the sooner it can be reinvested in other new equipment. Therefore, whereas foreign companies were reinvesting and reinvesting and reinvesting,

the investment capital of U.S. companies was tied up years longer by our internationally non-competitive tax laws.

In Canada, for example, where a new integrated steel mill has just been built, tax laws are allowing that investment to be recovered in 2-1/2 years. The U.S., until just recently, required 12 years. Accordingly, there hasn't been a new integrated steel mill built in the U.S. for over 20 years.

Obviously, such internationally non-competitive tax-burdens restricted the ability of capital intensive industries to generate the funds required to modernize or replace equipment. Such policies have impaired productivity; which in turn impaired competitiveness; which detracted from earnings; which further reduced industry's ability to modernize. A vicious circle.

Accordingly, though Standard Steel was able to renew much of its primary-equipment over the years, it generated insufficient funds to also replace its critically important auxillary-facilities. Though the new depreciation legislation will minimize such problems in the future, we do have years of "catching-up" to do. More specifically, 90 of our 160 heavy duty plant-cranes are over 60 years old. They cost an average of over $350,000 each. Similarly, 38 of our 73 vertical boring mills, where technological advancements have been brisk in recent years, are over 30 years old. They cost near $750,000 each. Just replacing

those units would cost $60 million. Even with the new tax law, such will require many years for a company of our size to accomplish.

Whereas, one can live with the extra-ordinary requirements of such old equipment when working 5 days a week, because maintenance can be performed on week-ends, national emergencies require such equipment to work dependably seven days a week.

Such needs to renew defense-related industrial equipment might be accommodated by the government using Title 3 of the Defense-Production-Act (which is currently being considered for extension by the Congress), or, by placing government equipment in "defense-plants". In the latter case, the government could rent such equipment to the defense plant for other than defense when it was not being used for that purpose. Such programs are not new. Two government vertical-boring-mills were installed in 1962 at Standard Steel for armored-tank turret-ring production. Though these mills should now be replaced to accommodate current tank programs, they did provide a credible national-service for many years.

In conclusion, certain capital-intensive defense-industries may require help if they are to be called upon to modernize absolete equipment upon which we would have to depend in national emergency.

NEW EQUIPMENT

I recently had the opportunity to visit the Armory at Watervliet, New York. It owns and operates the only automatic-forging-machine in the U.S. that can produce artillery gun-barrels. An unsolicited question was posed. It involved the armory's concern about automatic-forging capacity in time of national alert, and, whether our automatic-forging-machine would be available to produce 105 and 120 mm gun barrels. Though our facility was not equipped to make gun barrels, an expenditure of less than $1 million would accommodate that deficiency. This might be considered a cost-effective government investment on behalf of national preparedness.

A similiar deficiency relates to the U.S. capacity for Vacuum-Arc Remelting. This refining system is absolutely essential in the production of high purity steel, nickel-base alloys, and titanium metals for the aerospace industry. Just two years ago, prior to the current temporary lull in jet-engine and airframe manufacturing, our VAR facilities and those of the entire industry were operating at capacity. In spite of that, they constituted a bottleneck to the productive capacity of the entire aircraft industry. This national capacity-shortcoming could profoundly limit industrial-responsiveness in time of national emergency.

Again, it might be prudent in terms of industrial-preparedness to consider installing appropriate government equipment in defense plants on a full "rental-payback" basis.

STOCKPILING OF STRATEGIC MATERIALS

Secretary of State Alexander M. Haig has stated his concern that 90% of several strategically important minerals are to be found only in far-away lands; minerals for which no substitute has been developed.

Chromium, for example. It's indispensable in the steel industry's and Standard Steel's manufacture of stainless and alloy steel. Unfortunately this country has virtually no indigenous chrome. Most of the world's reserves lie in the Republic of South Africa, and Zimbabwe, the former Rhodesia.

And manganese, without which we couldn't even make carbon steel. Here again, the U.S. is "import-dependent". The U.S. Bureau of Mines estimates that southern Africa contains 40% of the world's supply of manganese and the Soviet Union 50%.

Without those imported minerals and others such as cobalt and platinum, you couldn't build a jet-engine, a missile, an automobile, an

oil refinery, a computer, or a power plant. Neither could you process food or run a hospital operating room in compliance with modern standards of sanitation.

Fortunately, in the closing weeks of the last Congress, our lawmakers passed what is formally known as the National Materials and Minerals Policy, Research and Development Act of 1980. That legislation should enable us to

1) provide a coordinating mechanism, under the President, with the full authority to cut across departmental jurisdictions in the interest of implementing a consistent minerals policy. It has been estimated that more than 20 different agencies and dozens of different laws have been involved in that task. Such non-productive confusion must be abolished.

2) provide impetus to internationalize the responsibilities of the U.S. Bureau of Mines. The data base provided by the Bureau in this country is excellent, but, the minerals problem is world-wide with international overtones.

3) provide a reassessment of our present defense-stockpile; much of which is over 25 years old and which is valued at about $12 billion.

That study should compare quantity, quality, and mix with the demands of today's technological and materiel needs. Should we not, for example, stockpile more ferrochromium than chrome ore now that a large part of our nation's capacity to smelt ferrochrome has been undermined? And,

4) provide a method for monitoring ferrous scrap exports. This constitutes another strategically significant item because 27% of all the steel domestically produced during 1980 depended upon the availability of iron-units from ferrous scrap. Because ferrous-scrap-exports were 31% greater during the past three years than those of the preceding three years (11 million tons in 1979 and 1980), and, because 36% more scrap was required per ton of domestic steel produced in 1980 than was required in 1975 and 1976, the Department of Commerce has been asked to monitor ferrous scrap exports. The provisions of the Export Control Act could be used. Such action would at least provide a foundation for the administering of export-controls when the shortage becomes critical. The fact that ferrous-scrap availability can be deficient is reflected by the leap-frogging of scrap prices every time the domestic/foreign monthly demand for scrap approaches 4.3 million tons. Demands during periods of international emergency would obviously be greater.

In conclusion, the stockpiling and availability of strategically limited items must be professionally managed if we are to integrate their scarcity-of-supply with our goal of national-preparedness.

MODIFICATION OF GOVERNMENT POLICIES

One policy our government should modify involves its resistance to provide equitable protection for our railroad-wheel-producing industry, an absolutely essential contributor to national defense because American

railroads must be able to support any all-out military effort. Instead, that industry has been left naked of all duty protection. Consequently, it is internationally non-competitive. Standard Steel, for example, would have to pay a 17% duty on wheels it shipped into Canada. The net affect is that Canadian wheel-producers can sell into the U.S. market because there is no U.S. duty to pay; but, we can't afford to sell our wheels to Canada because we would have to pay a 17% duty. Implicit in that typical scenario is also a displacement of key American labor and productive-skill.

To add insult to injury, our government even removed railroad wheels from the original trigger-price list because the single Japanese wheel-producer refused to submit their costs to our Treasury Department. As Japanese costs are the basis of trigger-prices, lackluster leadership in our bureaucracy reacted by just dropping wheels from the trigger-price-list altogether.

As a result of such policies, railroad-wheel imports increased 400% between 1976 and 1980; in spite of the fact that market-growth for railroad wheels in the United States between 1976 and 1986 is projected to be only 25%* Again, key American labor and productive-skill is being displaced.

*Hogan and Hartson Report to Commerce Department 12/22/80.

Imports of Foreign Wheels
(Tons)

Year	Japan	Canada	France	Brazil	Total
1976	12,400	4,200	12,800	-	29,400
1977	14,000	4,600	33,400	-	52,000
1978	22,000	22,000	43,200	-	87,200
1979	19,600	13,600	43,600	1,600	78,400
1980	35,200	13,000	47,600	22,000	117,800

Source - U.S. Census Bureau, U.S. Imports for Consumption; Commodity by Country (TSUSA 6902500)

Recently, however, with the help of Senator Heinz and a new attitude at Commerce (now in charge of trigger prices), greater recognition of the problem has been affected. Two recent letters to Commerce are attached to more fully describe this specific problem.

In summary, government must provide internationally-competitive support if certain of its defense-related industries are to remain in a state of preparedness. Not protection! Not at all! Just logical internationally-competitive support.

A similar undermining of strategic segments of American industry is caused by government directives involving unnecessary, non-productive

environmental burdens; a classical example of which was recently imposed upon Standard Steel. In self-defense, Standard Steel conducted air-quality tests around its Burnham plant for an entire year. The results showed that the huge sums it had already spent on air quality was providing the area with an air-quality level that was far superior to the legislative requirement (44.7 vs 60 micrograms/cu. m.). In fact, the air was some of the cleanest in the country. In spite of that program and its results, with which our regulatory friends formally concurred, Standard Steel was still ordered to spend hundreds of thousands of dollars to improve air quality even further; to a level perhaps even better-than-excellent and surely far in excess of the legal requirement.

Would not Standard Steel and the people environmental laws were designed to protect be much better off if Standard Steel could instead use those funds to buy new cranes or vertical-boring mills. That would have enhanced the company's cost-competitiveness, its preparedness to support any defensive effort, and, the employment security of our "one-company-town". These achievements would be much more important than the marginal benefit to be gained from the new "air-quality" equipment it must buy.

Unfortunately, this is not a unique problem. A recent Arthur D. Little report reveals that much of the steel industry's justifiable clean-up job has been completed at a cost of $8.5 billion; which amounted

$27/ton of all the steel produced in 1979. However, if government's already programmed demands are actually imposed through 1989, the results will

a. increase those environmental-costs to $71/ton
b. reduce shipments by 9 million tons; because there will then be insufficient funds to increase steelmaking capacity
c. add $4 billion to the trade deficit because more steel will have to be imported
d. eliminate or dislocate 40,500 steel-workers and 121,500 steel-industry-related jobs
e. annually increase steel-industry energy consumption by the equivalent of 63 million barrels of oil, and
f. increase our nation's state of unpreparedness by furthering our dependance on foreign-steel; to perhaps 30% of just its commercial needs.

An official summary of that ADL report is appended.

CONCLUSION

Standard Steel has participated in the provision of armaments to our military forces since the War of 1812. It remains as resolved as ever that there is nothing more important for our government to do than assure America's ability to defend itself against those that would destroy our way of life. Implicitedly, therefore, it must logically protect and support that portion of its industrial complex upon which we must depend for national-preparedness.

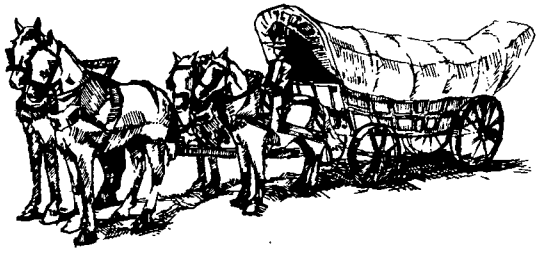
THE *Standard Steel Story*

by John E. Fogarty

Founded as a small frontier forge, Standard Steel is unique in the annals of American business. Prudent applications of advancing technology and evolving-philosophy, as well as its exposure to the social, economic, and political conflicts that have confronted our nation for over 170 years, have transformed the pioneer company into one of today's foremost integrated-producers of heavy machined-forgings.

EARLY HISTORY

Eli Whitney had just invented the cotton gin and the "impressment" of American sailors foretold of "things-to-come".



Conestoga-wagons were rumbling westward across the Appalachians to push expansion beyond the Ohio valley, and, though James Watt's steam-engine was gaining acceptance, America's first railroad was still 30 years away.

The year was 1811. Freedom Iron Works, from which Standard Steel is directly descended, began operations on the banks of the Kishacoquillas Creek (70 miles west of Harrisburg). It smelted its own iron for forging into bar, rod and plate. Shipment was via barge down the Juniata and Susquehanna rivers to blacksmiths, wagon-makers and shipwrights.

The stock became axes, cooking utensils, and fittings for whaling-vessels. Methods were crude. But Central Pennsylvania, with its plentiful offering of ore, hardwood-forests, and water power, held rich potential for the emerging iron-maker.

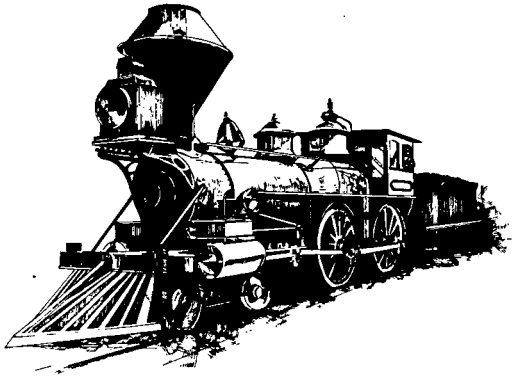
Early in the 19th century, two events helped to insure the Company's future. The first was the Pennsylvania Canal. In 1829, creeping to within three miles of the plant, it began providing transport to broader markets. Then, within twenty-three years, the forge was linked to both Philadelphia and Pittsburgh via the arising Pennsylvania Railroad. Participation in America's industrial-revolution thereby became an inescapable, exciting reality.

STANDARD "INVENTS" THE WHEEL

By 1856 the Freedom Iron Company (as it had come to be known) had increased its annual iron-making capacity to 1300 tons. It was now one of Pennsylvania's largest forges with eight "fires" and five steam-hammers.

That year it also installed the first ring-mill in North America; an event which fused the company's destiny with the burgeoning railroad-industry, and, irrevocably oriented the plant toward the production of round, forged-steel products. The purpose of the mill was to manufacture railroad-tires; which fit over cast-iron railroad-wheel cores. To that time, all railroad-tires had to be imported.

In its first year the mill produced 2,000 tires. Forged wrought-iron sections were formed with a swedging-die into shaped-bars. Their ends were welded together to form a ring; in preparation for "ring-rolling" to final-shape.



As railroads began to criss-cross the country, demand emerged for wheels with greater load-carrying capacity. The company, whose name had been changed to Standard Steel in 1875, responded by inventing the first solid-steel wheel (in 1904).

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That wheel soon became the standard of the American railroad industry. By that time open-hearth steel-melting equipment had been installed which was capable of producing 10,000 tons of steel a year.

Then, in 1930, Standard Steel introduced the industry's first heat-treated wheel, for which it was granted an exclusive patent. The company continues today, after 125 years, as a major supplier of wheels to America's railroads.

RAILROAD AXLES

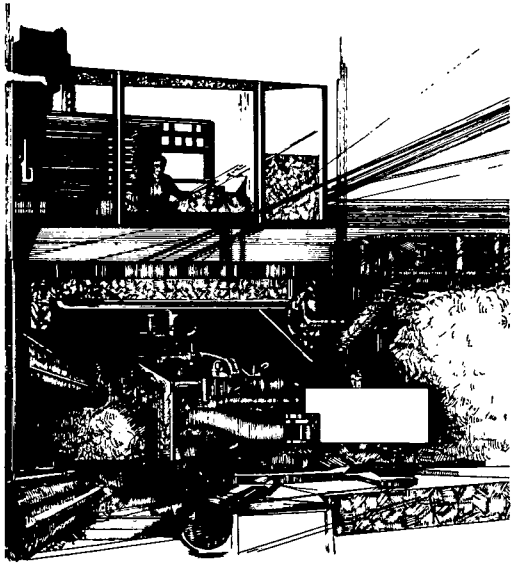
In 1898, the company installed a forging-hammer to produce railroad-axles to supplement its railroad-wheel line. This dual-product, single-source arrangement so advantageously increased sales to the railroad industry that a need for more steel-making capacity was created. Accordingly, additional open-hearth capacity was added and by 1920 Standard Steel was producing 150,000 tons of steel per year.

In 1968, a fully-automated axle forging-and-machining facility was installed. Interestingly, it was housed in the same stone building that was erected by the Company in 1867 to accommodate some of the earliest attempts at Bessemer steel-making in the United States.

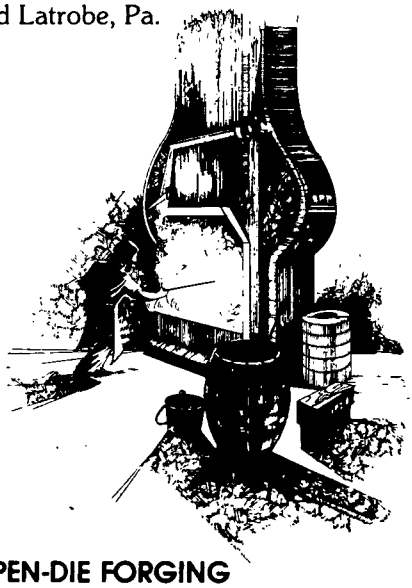
Standard Steel remains America's leading producer of railroad-axles.

RING MILL PRODUCTS

By 1920, its small 1856 ring-mill had been joined by six large steam-operated units. Rings were produced from 24" to 240" in diameter, and, from a few pounds to many tons. America's surging industrial-growth revolved on gears and bearings made from such rings. Requirements mushroomed even further as world-encompassing oil-and-gas pipelines demanded circular flange-joints by the millions. More recently, with the introduction of jet-aircraft, Standard Steel also became our nation's foremost supplier of jet-engine-rings.



To accommodate these burgeoning opportunities, the Company, in 1976, installed an electronically-controlled ring-rolling facility. It's capacity totally absorbed the entire work-load of all six of its predecessors. Today, there is no more credible producer of high-quality ring-mill products than is Standard Steel of Burnham and Latrobe, Pa.



OPEN-DIE FORGING

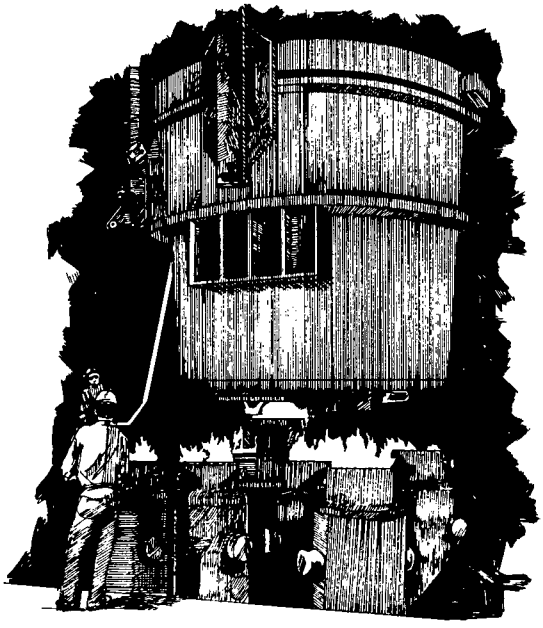
The acquisition of Latrobe Forge and Spring in 1976 provided an opportunity to combine once-proud but aged press-forging equipment at Burnham with the larger, more versatile press-forging facilities at Latrobe.

The newly consolidated 5000/1500 ton press-complex, which is supported by heavy-duty manipulator equipment, produces mandrel-forgings, shafting and sound-center blooms that weigh up to 35 tons. Concurrently, large, fast-acting hammer-forging operations at Burnham were expanded and modernized to assure Standard Steel's position as America's leading producer of machined-bars from 12" to 25" in diameter.

ITS STEEL COMPANY

Standard Steel's steel-making plant is to its wheel-and-axle business, its ring-business, and its open-die business what most primary metals-producers are to their customers. Interestingly, over half of the total costs of Standard Steel's operations lie within its melt-shop; a fact that has been appreciated through the company's history.

In 1868, for example, it installed two of the first steel-making Bessemer converters in North America. Open-hearth steel-making furnaces were added in 1895, 1902 (to replace the Bessemer operations) and in 1917. Between 1958 and 1970, "vacuum-degassing" facilities were provided to enhance steel-quality, and electric-furnaces replaced open-hearth steel-making operations. Vacuum-arc-remelting equipment was added to accommodate the requirements of its aerospace customers, and, the company acquired the first license ever granted for the



"argon-oxygen" refining of stainless-steel.

By 1979, the "Steel-Company" converted all of its teeming operations to "cylindrical-ingot bottom-pouring"; an ingot-casting process for which Standard Steel has exclusive licensing-rights in the United States, Canada, and Mexico. This process is to the "steel-forger" what the continuous-casting-process has become to the "steel-roller"; in terms of both improved ingot-yield and product quality.

The company's latest American "first", during 1981, involves the application of water-cooled-electrodes during electric-furnace steel-making. A most cost-effective innovation.

Technological advancement has been implicit with the "Steel-Company's" growth from its 145-ton output in 1811 to over 350,000 tons today.

FOUR COMPANIES IN-ONE

As described, Standard Steel is composed of four business ventures; Wheels and Axles, Ring-Mill products, Open-Die Forgings, and Steel-Making. Each is sufficiently different in manufacturing-system and marketing-arena to require a separate business-philosophy and strategy. That is why Standard Steel is managed as four separate cost/profit centers using "integrative management"; a system it devised for its particular needs. This system allows Standard Steel to respond to business opportunities with exceptional flexibility.

THE FUTURE

It is probable that Standard Steel will double its sales-volume within a very few years. A good deal of profit will have to be generated to pay for related facility-expansion and modernization. To this end,

we ask our suppliers to participate with innovative-contribution, and, our elected-officials to participate by providing internationally-competitive investment-depreciation legislation. Standard Steelers, of course, will participate with the dedication and resolve of their forefathers.

Persistence reigns as we enter the space-age and "The Standard Steel Story" continues to unfold...

John E. Fogarty

STANDARD STEEL
BURNHAM, PA 17009 (717) 248-4911

John E. Fogarty
President

June 23, 1981

Ms. F. Lynn Holec, Director
of Agreements - Compliance Section
Import Administration
International Trade Administration
Department of Commerce
Washington, D.C. 200000

Dear Ms. Holec:

I have been very pleased indeed with the responsiveness of your group regarding our efforts to include railroad wheels under the Trigger Price Mechanism.

As you will recall, during our meeting of 2/6/81, the mechanism for preparing cost-models for Japanese wheels was described. Accordingly, we later forwarded to you rough drafts of the models we prepared. With further consultation, they were modified into the form presented during our meeting of May 26.

As a result of these collective efforts, Joe Spetrini, who represented you during the May 26 meeting, was encouraged to the point of establishing an unofficial target for affecting railroad-wheel trigger-price coverage by the fall of this year. The plan involved using the Japanese-wheel cost-model data, instead of actual Japanese costs (which are not available), as the basis for establishing a trigger-price.

As a follow-up to that meeting, our counsel called Joe last week. He was advised that Joe had affected none of the steps that he had planned to take in pursuit of this objective. I was surprised at the reason for his inaction - that no decision had as yet been made on "the product coverage issue". He stated that Stan Gustafsen and Joda Taylor (who also attended the May 26 meeting) had to recommend that railroad-wheels be covered by TPM before he could proceed.

I was particularly surprised because there has never been a question of whether wheels should be covered by TPM. That decision was specifically included in President Carter's original TPM proposal of December, 1977.

The only obstacle to fully implementing that decision has involved resistance by the Japanese to provide railroad-wheel cost-data. (They provided such data on all other steel products covered by TMP). Consequently, as Japanese costs constitute the basis of TPM, the fact that no Japanese cost data was available has made it impossible to assign trigger-prices to railroad-wheels. This has been the only obstacle.

To reiterate, whether railroad wheels should be covered has never been an issue.

I would very much appreciate your continued interest in this matter as we certainly favor Joe's unofficial target of obtaining TPM coverage for railroad wheels this fall.

Very truly yours,

ba

cc: Mr. R.J. Kenney, Jr.

STANDARD STEEL
BURNHAM, PA 17009 (717) 248-4911

August 13, 1981

John E. Fogarty
President

Mr. Gary Horlick
Deputy Assistant Secretary
Department of Commerce
Room 2800
Main Commerce Building
Washington, DC 20000

Dear Mr. Horlick:

I was very pleased indeed to have the opportunity to chat with you in your offices on August 6 concerning trigger-prices for railroad wheels and axles. We were also pleased to be advised that Creusot-Loire had belatedly responded to Solicitation for Comment, 45 Fed. Reg. 76722, November 20, 1980. They were the only ones that did respond to the fully documented Hogan & Hartson submission of December 22, 1980 entitled "Comments in Support of Extending TMP Coverage to Railroad Wheels and Axles and Mounted Wheel-and-Axle Sets".

Accordingly, a reply to the weak Creusot-Loire response has been officially forwarded to Lynn Holec. Copies of both documents are attache

Again, consistent your request during our meeting of August 6, the attached reveals that railroad-wheel imports have increased 400% and railroad-axle imports have increased 1600% since 1976. The fact that the U.S. industry, as documented in the Hogan & Hartson report, is projecting a total market growth rate for wheels and axles through the entire 1976-1986 period of only 23% and 22% respectively, confirms the magnitude of the import threat.

Though the above is distressing, all evidence suggests that it will become worse; because of such as the flagrant Brazillian government support of exports from its growing railroad wheel-and-axle industry, and, the strong, growing socialistic-government support being afforded the French steel industry.

In a nut-shell, the American wheel and axle manufactures are not competing with foreign manufactures but rather with foreign governments.

Also of significance is the fact that the U.S. railroad-car-building industry is presently in a state of severe recession. Their business backlog has as of July 1981, according to the American Railway Car Institute, declined 59% from its level of one year ago. In spite of this, the total imports of wheels and axles increased from the first to the second quarter of 1981 (Department of Commerce 6902500 and 6903000).

We need your help. We don't even have duty protection; absolutely none on wheels or wheel-and-axle assemblies, and, only 2% on axles themselves. All of our international competitors do. We'd have to pay a 17% duty, for example, to ship into Canada.

Trigger prices will help. Fully articulated Japanese wheel-cost-models have been provided to Commerce. We trust they can provide the bases of TPM action before year's end.

Very truly yours,

cc: Senator H. John Heinz, III
S. Gustavson

Imports of Foreign Axles
(Tons)

Year	Japan	Canada	France	Brazil	Total
1976	370	876	56	0	1,302
1977	821	934	992	0	2,748
1978	7,884	95	1,032	0	9,012
1979	11,109	3,480	299	1,534	16,422
1980	14,606	4,060	222	2,454	21,343

Imports of Foreign Wheels
(Tons)

1976	12,400	4,200	12,800	-	29,400
1977	14,000	4,600	33,400	-	52,000
1978	22,000	22,000	43,200	-	87,200
1979	19,600	13,600	43,600	1,600	78,400
1980	35,200	13,000	47,600	22,000	117,800

Source - US Census Bureau, US Imports for Consumption; Commodity by Country (TSUSA 6902500)

ENVIRONMENTAL POLICY FOR THE 1980's:
IMPACT ON THE AMERICAN STEEL INDUSTRY

Report to The American Iron and Steel Institute

Arthur D Little

An Industry Review

Steel

Foreword

Arthur D. Little, Inc., a national consulting firm, was commissioned by the American Iron and Steel Institute to evaluate selected environmental policies in terms of their long-range impact on the steel industry. The study assumed there would be no change in other governmental policies which would close the gap between the industry's capital requirements and its cash flow.

Three specific areas of study were undertaken:

1. Analysis of the performance of the steel industry up to 1979 in meeting the objectives of the Clean Air Act and the Clean Water Act;

2. Assessment of the capital and operating costs to the steel industry through the 1980s, of achieving full compliance with both current and projected future air and water pollution control requirements;

3. Estimation of the effects of current and projected future air and water regulation on steel shipments, employment, energy requirements, steel production costs, etc.

The report studied costs and other effects in two time periods: 1) the period preceding deadlines for compliance with the Clean Air Act (Dec. 31, 1982) and the Clean Water Act (July 1, 1984); and 2) the period in which projected future environmental controls will be in effect, ending with the year 1989.

The study assessed the impact of control of criteria air pollutants and designated water pollutants, but it did not assess the impact of other environmental control requirements.

Assumptions were necessary to identify and isolate the impacts of selected environmental requirements. Changes in these factors would, of course, influence the impacts identified in the report.

The report described all the assumptions made relative to other factors such as:

- domestic demand for steel
- availability of imports
- levels of imports
- rate of plant obsolescence
- administrative and judicial interpretation of legislative requirements.

The environmental costs stated in the report are those for air and water pollution control where requirements have been reasonably well-defined. Other possible major costs, like those which may emanate from the Resource Conservation and Recovery Act (RCRA) are not yet sufficiently defined to permit their estimation.

Information used in the study came from a significant percentage of domestic steel plants and was sufficient to construct suitable mathematical models of the steel industry. Estimates are within limits of accuracy which conform to good research practice.

All dollar figures, past and present, have been stated in this review in 1980 base-year dollars.

Environmental Policy for the 1980s: Impact on the American Steel Industry

Beginning in the late 1960s, Congress enacted a series of increasingly stringent laws aimed at protecting the environment. This set the stage for a potential conflict between environmental perfection and the goal of solving other serious national problems—such as energy, inflation, and unemployment.

It is now clear to the American public that the nation's environmental policy no longer can be pursued without consideration of other priorities.

Environmental policy inextricably is related to the steel industry's overall economic condition. During the 1970s, more than 15 percent of the industry's capital was diverted to pay for environmental control equipment. Some companies had to spend 20 to 25 percent of their capital to meet environmental requirements. Revitalization of the steel industry and economic recovery can come only by developing remedies for all the factors contributing to the industry's dilemma, including excessive environmental requirements.

2

Steel Industry Progress

Since the key laws were enacted, most of the steel industry's major pollution problems have been brought under control. The industry continues to support reasonable requirements necessary for public health.

By the 1982 deadline (1985, for those companies utilizing the recently enacted stretch-out legislation) required by the Clean Air Act, the steel industry will be able to remove 96 percent of its airborne particulate emissions. By 1984, as required in the Clean Water Act, the industry will be able to remove over 98 percent of its water pollutants.

To reach the high levels of pollution control now attained, the steel industry had installed equipment worth $8.5 billion.* By the end of 1984, the expenditure may reach $10.8 billion. By 1989, to meet projected future requirements if all provisions of the Act are implemented and enforced, the investment could be as high as $18.5 billion.

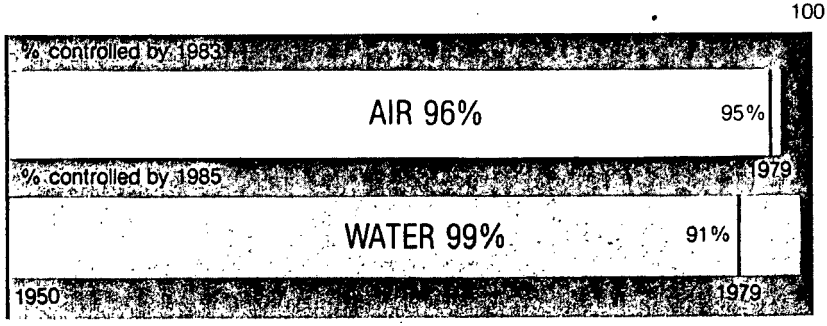
In addition to capital costs, the annualized operating costs of pollution control equipment are a significant added cost.

Annualized operating costs may be $3.19 billion by 1985 and may escalate to $6.8 billion annually by the end of 1989 to meet current and projected future environmental requirements.

*This and all references to dollar amounts are stated in the report as 1980 base-year dollars.

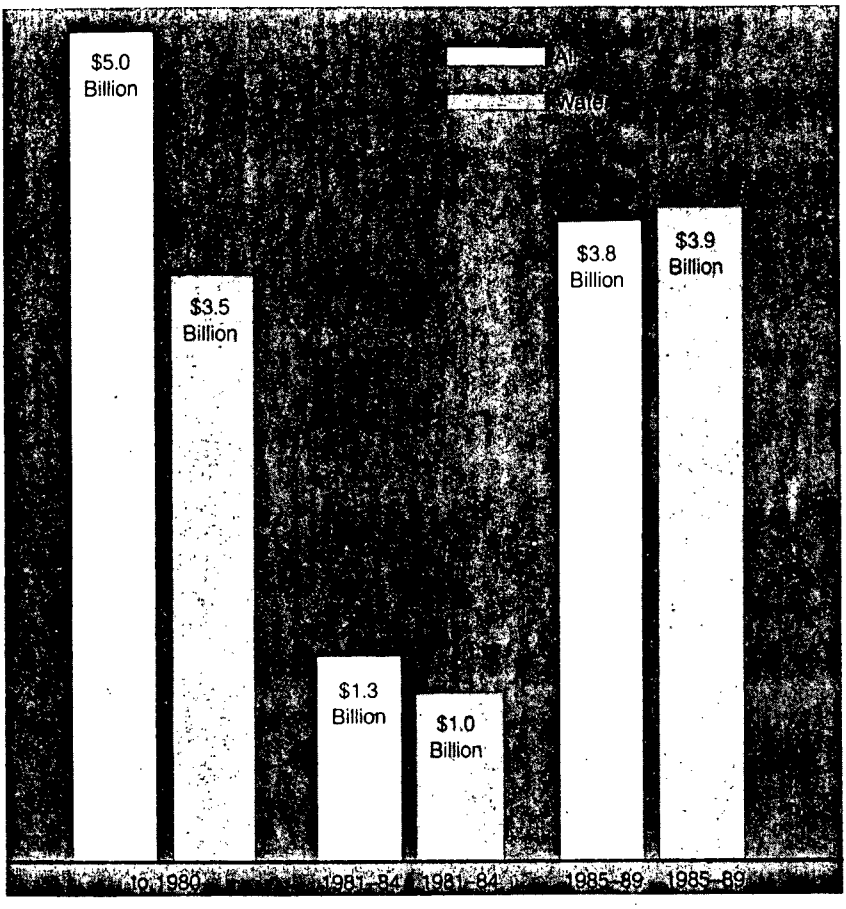
Steel Environmental Progress

Most of the industry's major pollution problems have been brought under control



Environmental Expenditures and Projections

$18.5 Billion 1950 to 1989 (in 1980 dollars)



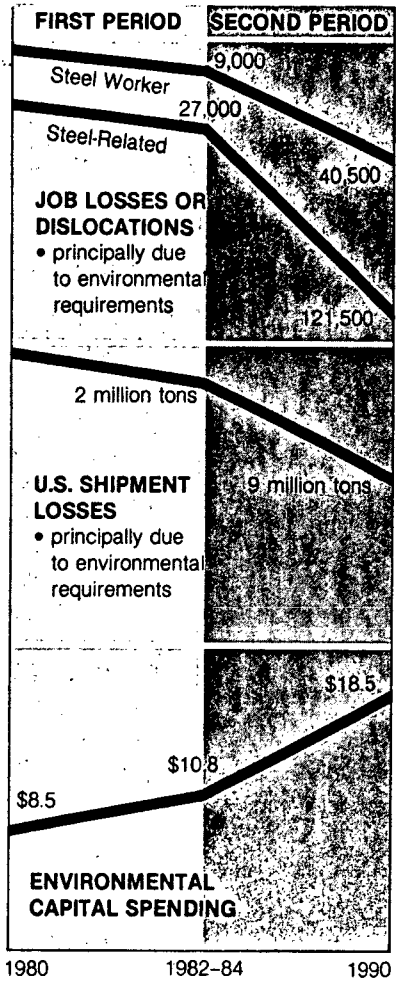
4

Future Implications

Considering the steel industry's progress to date, it is difficult to quantify what improvements, if any, will come from future requirements imposed on industry. For example, it is well documented that such "non-traditional" sources as unpaved roads, construction and agriculture account for 20 times as much particulate emissions as all industry sources; yet regulatory efforts are directed primarily at industry.

While the benefits of projected future requirements at best are debatable, the cost to the industry may exceed all the capital spent to date. For a steel industry already troubled, additional environmental costs pose a threat to the existence of many marginally economic facilities and thus endanger the many thousands of jobs they provide. Some of the potential impacts largely attributable to future environmental expenditures are these:

- Two million tons of annual shipments could be lost by 1984 as a result of the diversion of much-needed capital to meet remaining (first-period to 1984) environmental requirements.
- Seven million tons more could be lost if the industry is forced to meet projected future (second-period) requirements between 1984 and 1990. A total of 9 million tons of annual shipments (in addition to losses of shipments due to other causes) could be lost in the decade.
- As many as 40,500 steelworker jobs could be lost and 121,500 more



steel industry-related jobs could be lost or dislocated in the 1980s because of the decline in shipments resulting from the burden of environmental spending.

HIGHLIGHTS

- **Under present Clean Air Act requirements, the steel industry, by the end of 1982*, will be able to control 96 percent of its particulate air emissions.**
- **By 1984, the industry will be able to control over 98 percent of its water pollutants.**
- **The steel industry had in place $8.5 billion worth of environmental control equipment in 1980.**
- **By 1989, the industry may have to spend $2.3 billion more on facilities to meet first-period air and water goals as well as $7.7 billion to meet second-period goals.**
- **By 1989, annualized operating costs of environmental facilities may be as much as $6.8 billion.**
- **By 1990, as much as 9 million tons of annual shipments may be lost.**
- **By 1990 as many as 162,000 steel-related jobs could be lost or dislocated because of the burden of environmental spending.**

*By 1985, for those companies utilizing the recently enacted stretch-out legislation.

It is not cost-effective to clean up the remaining small fraction of airborne and water pollutants as compared with the cost of cleaning up the first 95–98 percent. For example:

- The first additional 1 percent of air clean-up will cost an average of 27 times as much as each percentage clean-up of the first 95 percent.
- If second-period regulations require "zero discharge" of pollutants in water, the remaining 1 percent of additional water pollution control equipment would cost 72 times as much for each percentage of improvement as would that achieved by equipment in place as of 1977.

6

Other Impacts

Diversion of scarce capital and operating funds from steel production to pay for pollution control devices may cause the steel industry to lose significant production capacity and jobs, but there are other far-reaching consequences to the industry and to the nation:

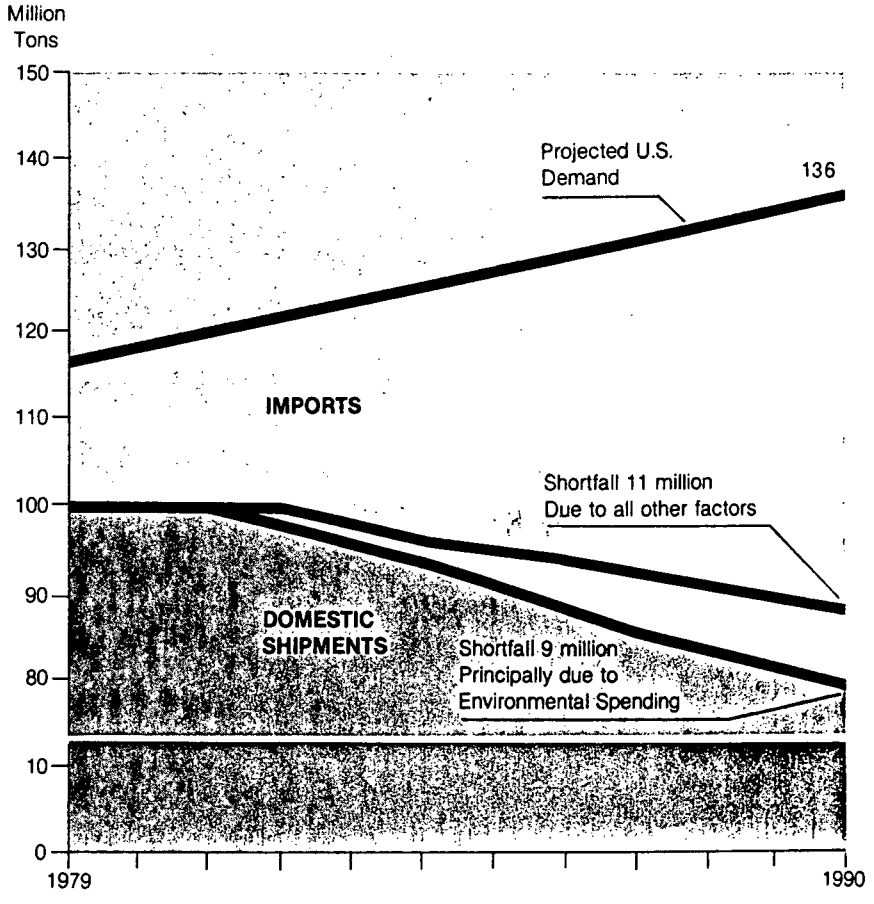
Imports. If environmental costs reduce domestic steel production as forecast, imports could rise an additional 9 million tons by 1989 to meet domestic requirements. This would add at least $4 billion to the nation's trade deficit. The nation would then depend on precarious foreign sources for over 30 percent of its steel—much as it now depends on OPEC for oil. The economic and national defense implications of this dependency are obvious.

Energy. Current environmental regulations will cost the steel industry $510 million a year for energy, and consume the energy equivalent of 24 million barrels of oil annually. Compliance with projected future environmental requirements could cost another $1.3 billion a year for energy, and consume the energy equivalent of over 63 million barrels of oil annually—a total of 87 million barrels a year by 1990. Furthermore, the generation of energy needed to control steel industry pollution produces its own pollution, which may in some cases exceed pollution from the controlled source.

Costs. In 1979, about $27 a ton was added to the cost of steel to pay for the operation and maintenance and capital charges for environmental control facilities (average price per ton of steel under $400). By 1989, the total cost may be $71 added to each ton of domestically produced steel as environmental costs soar.

Shortfall In Domestic Steel Shipments

1979–1990



8 Conclusion

The steel industry has been burdened by literally thousands of governmental regulations which have had a disastrous cumulative effect. Among those are excessive environmental regulations.

The need for debate over the desirability of a clean environment is long past. The steel industry is committed to continued progress in environmental improvement. The steel industry has made enormous expenditures to assure that the environment surrounding its mills is protected. By and large, the money spent to date on pollution controls has resulted in considerable benefit to the public.

As the industry confronts the potential additional burden of $10 billion to meet environmental requirements in the 1980s, it is time to re-examine national environmental policy and place it in its proper perspective.

Rather than imposing additional costs with unacceptable economic consequences, the U.S. government should revise its policies to ensure acceptable environmental quality within a sound American economy.

Senator JEPSEN. Thank you, Mr. Fogarty. You say in your prepared statement that two Government owned vertical boring mills were installed in 1962 at Standard Steel. Would you elaborate on how this was set up for the record?

Mr. FOGARTY. This was established through the Department of Defense at the time. There was a significant need to provide these military products. At the time there was no guarantee whatever that the volume of business potentially available would in fact materialize and therefore the Government bought two vertical boring mills and put them in our plant.

Subsequently, as that volume in fact did materialize, additional vertical boring mills were purchased by Standard Steel to accommodate the increased need.

Senator JEPSEN. They were purchased by you?

Mr. FOGARTY. The additional ones, yes.

Senator JEPSEN. The initial ones were under some kind of a rental agreement from the Government?

Mr. FOGARTY. A lease agreement.

Senator JEPSEN. Do you happen to have any instances where you could use the machinery for the Government contracts but then you had to pay a fee for the use of the equipment in non-Government contracts?

Mr. FOGARTY. Yes, indeed. That's what I referred to as a full rental-payback basis.

Senator JEPSEN. And that's different than a lease?

Mr. FOGARTY. Yes. I'm not quite sure what to call it. The vertical boring mills continue to belong to the Government. They were placed in our "defense plant," and as we used them for other applications when there was no need to use them for defense purposes, we paid the Government a rental fee.

Senator JEPSEN. Does the Department of Defense still own the equipment?

Mr. FOGARTY. Yes, they do.

Senator JEPSEN. You state they need replacement. Do you intend to replace them or do you think the Department of Defense should or what?

Mr. FOGARTY. Well, again, we're facing a potential dramatic increase in vertical boring mill costs to accommodate just a potential for increased spending for a tank program.

Senator JEPSEN. Have you talked to the Defense Department about it?

Mr. FOGARTY. Yes, indeed we have and, as a matter of fact, I have a list of our efforts to effectively communicate with them on this matter and it's really been an infinitely depressing exercise in futility. There seems to be a real need, as perhaps others on the panel have suggested, for a more credible means through which private industry can communicate with Government.

Senator JEPSEN. I met with Mr. Stockman a few weeks ago and we were discussing problems business had with Government. We were looking into that and I think he told me it was some horrendous figure—something like 262 forms—that are required to get the ball rolling and get started, plus many regulations applied. It's no wonder nobody wants to do business with the Government.

Mr. FOGARTY. As a matter of fact, it's not necessarily that the bureaucracy doesn't want to be responsive. We get the impression that they do. However, it's so complex that they, themselves, don't necessarily know how to proceed and therefore we all go around in circles.

Senator JEPSEN. Before I leave this subject—and I think my time is probably up—can you give me a bottom line answer, very simply—don't worry about the rightness or wrongness—what do we do about it? Go out and start all over?

Mr. FOGARTY. No, no. I think Government has excellent people. I think they really do. I think what they need is superior leadership and hopefully we are beginning to see some of that. Certainly in our efforts to gain trigger price recognition for railroad wheels the response to that has been much more positive in recent months than during the prior several years. I believe that the leadership is really the key to improving the relationship between Government and industry and that really both Government and industry see a need to create the type of partnership that Mr. Moran suggested exists in other countries.

Senator JEPSEN. For the record, I understand that you're saying that Government, whatever area or agency level, in its relationship with the private sector should be one of partnership rather than an adversarial one and that's an attitudinal posture which has not been positive.

Mr. FOGARTY. Definitely, Mr. Chairman. In spite of the fact for the most part both sides seeks that objective, but the leadership has been lacking as to how to materially achieve it.

Senator JEPSEN. I noticed that when I first came here in 1978. I came from the State of Iowa and I found it sometimes difficult to communicate with a department. Some people come back here and grow and others come back and just swell. They get a drink of Potomac water and they know all the answers and you can't communicate with them. Even a U.S. Senator couldn't. But things are changing. Congressman Brown.

Representative BROWN. On the problem of communication, I hear now from all four of you who have testified up to this point the need for some kind of industry panel which would in effect obligate the Government to listen to them. Are we ready for the War Production Board approach or some similar thing put together by Government or within the Defense Department or maybe Congress in order to blast its way into the Pentagon so we can get an audience? Would all of you comment on that in some way? Have you focused your attention yet as to what it ought to be? Your specific company interest is somewhat different from the testimony we got from Mr. Moran in that you're talking about a specific company and Mr. Moran was talking about a segment of the industry, but can a panel be put together to represent this military-industrial complex that President Eisenhower in his swan song raised some questions about, which has now been made somewhat more important to us than it was since we are some 30 years away from World War II and may have to do business with antique equipment?

Mr. FOGARTY. In response to that, Congressman, I would hope that whatever is done could be done without the need to increase the size of government. As a matter of fact, though I certainly am not in the best position to respond to your question, conceptually

I perceive thot the mechanisms may in fact be in place. However, they are not necessarily clearly articulated.

There seems to me so many groups trying to do the same thing that you run into a certain level of impairment and confusion and contradiction and, therefore, I would really hope that this could be done without increasing the size of government. In fact, I would suspect that with, again, strong leadership, the size of government could be reduced and thereby make it easier for industry and government to know who's in charge of what portion of the ship and therefore who to respond to and who to communicate with.

Representative BROWN. I heard a private conversation, which I can't quote directly, with Secretary Weinberger, but it went something like this: that there was a day in which to develop a military program and a weapons system when it took 9 months and $39 million, and now it takes 9 years and $39 billion to do essentially the same kind of thing, and some distress was expressed in the administration side of that that the industry was not as responsive as it should be and there was some inflexibility or inertia and we need to grab such a challenge and take off with it as was done in 1941 and 1942.

Mr. FOGARTY. I certainly feel that many of the technical and professional organizations—the American Iron & Steel Institute, the Ferrous Scrap Consumer Coalition, the American Association of Railroads, and so forth—is beginning to, through their members, coordinate and communicate more forcefully and effectively with government. I feel this is developing because the American businessman for so many years—his main challenge has been how to put up with the increasingly hostile environment that government has been creating for business. However, this seems to be waning and there seems to be a rebirth of confidence of the American businessman in the American Government and I suspect that we are on the right road to achieving the rapport that everyone seems to believe is necessary between industry and government.

Representative BROWN. I'm not sure I know the American businessman. I've been here too long and no longer qualify for that any more, but I think there's a declining confidence of the average American taxpayer of the capacity of government to deal with problems and, by comparison, the American businessman is looking better because they don't have that much confidence in government. But if we could get Secretary Weinberger or somebody above the assistant chief to the chief assistant to sit down with some business people on a regular basis and just kick around this problem of why there is no speed and no real low cost approach to some of these problems perhaps we could make some headway.

The thing that I'm concerned about, in addition to the issues we've discussed, is whether or not in some regards the military system is not overly futuristic in its approaches to what we may face in military situations. You literally are trying to invent things that do future Buck Rogers kind of work and you don't have Buck Rogers kind of people either making them or operating them at this point. To what extent would it be helpful to have such a group either within the military leadership or within the Defense Department, civilian leadership, sit down and hassle through some of these problems with industry; and to what extent is that concern of mine real or imagined

about the too greatly advanced systems for the capacity to operate and maintain them?

Mr. FOGARTY. Answering the second question first, Congressman Brown, I think we have to recognize, unlike most other countries that we point to from time to time, that this is a very, very, very large, extraordinarly complex country and both government and its industrial sector are equivalently difficult to isolate or to capsulize. There are so many divergent interests.

There again, I would suggest that industrial sectors, such as the steel industry, be provided with a better communicating mechanism with government. Whereas it may be useful to gather a group of businessmen representing different industries in a conference to describe the general problem, I think that such a committee would be so diverse in its interests that it would be difficult for it over a long period of time to really be productive.

Representative BROWN. It's kind of a nonanswer.

Mr. FOGARTY. No; I think the answer is you have to put like people in government who are interested in a specific industry in touch with representatives of that specific industry. If we put people in the electronic industry associating with government offices that are related to the procurement of steel, I'm not sure that would be productive. That's my point.

Representative BROWN. Thank you, sir.

Senator JEPSEN. Mr. French, president of the National Steel & Shipbuilding Co. in San Diego. You may proceed.

STATEMENT OF ALFRED W. LUTTER, JR., VICE PRESIDENT, MARKETING, ON BEHALF OF C. L. FRENCH, PRESIDENT, NATIONAL STEEL & SHIPBUILDING CO., SAN DIEGO, CALIF.

Mr. LUTTER. Mr. Chairman, Congressman, first of all, Mr. French isn't here. I'm Alfred Lutter, vice president of marketing for National Steel & Shipbuilding. Our seven labor contracts expire at midnight tonight and Mr. French is back at the store working out the last economic issues and he apologizes for not being here.

The prepared statement that you have, which I will go through, was prepared by Larry and represents his feelings.

National Steel & Shipbuilding Co., otherwise known as NASSCO, is the largest shipbuilder on the west coast, located in San Diego, Calif., and is a wholly owned subsidiary of Morrison-Knudsen Co., headquartered in Boise, Idaho.

NASSCO presently employs about 6,800 people, down from 7,600 last January. Based on current projections, this number will drop to below 2,000 in 1983, with this minimal level sustained by ship repair.

I am here on invitation by Senator Jepsen to share with the members of this subcommittee my views on the present problems of the defense-related industrial base, especially those problems related to vendors or subcontractors. My remarks will be restricted to the problems related to shipbuilding, but I believe similar problems exist throughout the entire defense spectrum.

The industrial base for large shipbuilding should include geographically dispersed shipyards with expansion capabilities, supported by a domestic supplier industry, also with expansion capabilities. These two

industries—shipyards and suppliers—should be assured of an adequate supply of raw materials and a transportation system to maintain the flow of materials to them. I do not believe this base currently exists and I have serious reservations as to our ability to recreate it in a timely manner.

The best way to establish and maintain an industrial base is to create and maintain a level of activity sufficient to insure that the base is able to exist. In shipbuilding this level of activity does not exist today and has not existed for some time. Consequently, problems, some more serious than others, are now present in the industrial base for shipbuilding.

Shipyards spend from 40 to 70 percent of the costs of a ship on supplies and equipment. A shipbuilder is a prime contractor, an assembler of components. Suppliers of material and equipment are the key to a shipbuilder's ability to exist. Likewise, the building of a ship is the culmination of the efforts of many workers who will never see the ship or the shipyard where it is being built.

Other nations, Japan as the prime example, have built their whole economy on building and exporting ships. These economies have supported industrial bases of key industries: steel mills, foundries, forges, electrical equipment manufacturing, pump manufacturing, and other related industries. The United States has never recognized the importance of supporting a shipbuilding industry and, consequently, today we not only do not have an adequate shipbuilding base, but we lack an industrial supporting base as well.

The present shipyard supporting industrial base consists of two groups of suppliers:

(1) Basic products to the shipbuilder, such as steel, welding supplies, castings, forgings, pipe, and electrical cable.

(2) Manufactured items, such as main propulsion equipment, deck machinery, electric motors, pumps, valves, and fittings.

In the last 10 years, there have been no ships built at NASSCO for either the Navy or under the Jones Act—commercial ships—in which foreign equipment, components, or basic material was not used. In many cases it was a situation of a sole source, and sometimes the only source available to meet delivery requirements was a foreign supplier.

In addition, I am certain that on construction differential subsidy ships built during this same time period—Buy American Act applies to these ships—many U.S.-manufactured machinery contained foreign components, such as castings, forgings, and steel.

If foreign supplies were cut off, drastic shortages in almost all manufactured components and basic material would occur.

This dependence on foreign equipment suppliers and foreign component suppliers, and the foreign merchant marine to get them there, is a serious problem when looking at a defense-oriented industrial base. Some of the problems which I will identify may be even more serious than it appears when second and third tier suppliers are dependent on foreign sources. One relatively unrecognized dangerous potential problem is that Japan's law forbids exportation of materials to be used on foreign weapons systems. To date this law has not been enforced, but political pressures could force it into effect at any time, creating a serious situation as many defense subcontractors depend on supplies from Japan.

During the past few decades, we have seen ever accelerating national goals, with laws to support them, leading to the export of our basic industries. Environmental restrictions and wealth redistribution legislation have made it uneconomical for steel mills, foundries, and forges to remain in business. If they do remain, they develop more specialized, highly technical products. Foreign nations, eager to create jobs and to obtain dollars, willingly become suppliers of basic materials, components and equipment as U.S. manufacturers phase out. Some companies attempt to retain reserve facilities while buying foreign cheaper components. But should these standby facilities be reopened, where would the skilled workers to operate them come from?

Most U.S. manufacturers of heavy machinery components are part of a large company that serves many markets. The marine segment within the company therefore is in competition for company funds with other market segments such as utilities, process, gas and oil, aircraft, and so forth. Companies tend to invest money where the greatest return on investment can be obtained. With no market for marine products, it becomes difficult or impossible to obtain company funds for new machinery or research and development related to marine products. The net result is still more dependency on foreign suppliers by the shipbuilder.

I will give you some specific examples of the problems we have experienced in the vendor-subcontractor areas.

There are only two integrated steel mills west of the Mississippi. These mills are Nassco's source of supply of U.S. manufactured steel. Kaiser Steel in Fontana, Calif., has had many problems, mostly related to environmental protection requirements. They are currently considering eliminating their steelmaking capabilities and becoming a rolling mill, using foreign—probably Japanese—supplied slabs.

United States Steel's Geneva plant is the second source, and it also has had environmental protection problems, at one time so severe as to cause United States Steel to consider closing its mill completely.

Nassco has not bought foreign steel in spite of many short-term opportunities to save money. We have continued to buy domestic steel in order to help keep the western mills in operation. The prospect of a rescued western steel supply is very real today, in spite of our past support.

Large steel castings used for stern frames are at times unavailable in the United States, and we have had to purchase foreign castings. Bethlehem Steel is a sole source of these castings and has a limited capacity. Bucyrus-Erie, General Electric, Birdsboro, and Blau Knox remain in the heavy steel foundry business but rarely have capacity for other than their own corporate needs.

Shipbuilders require many valves. Walworth, Rockwell, Powell, and Cranes have been suppliers to the industry for many years. Walworth has been Nassco's primary supplier of steel high-pressure valves. Walworth has stopped manufacturing U.S. made valves. They now get all components from Mexico and do some assembly in Texas. Delivery from Rockwell and Powell is such that delays beyond long leadtimes are standard. Crane is a single-source supplier of many types of valves. Gimple is the only supplier of turbine astern control valves and refuses to comply with U.S. Navy standards. Lonergan-Kunkle

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are sole source for relief valves. Six-month delays beyond long lead times are standard.

In many cases we have sole source on gyros and automatic pilots, anchor and die lock chain—and this goes on and on.

These examples are not all the symptoms of a sick industrial support base but are certainly adequate to prove the presence of the disease.

The letter from Senator Jepsen asked for testimony on the past effect of Government policies as well as proposed solutions to the problem within President Reagan's programs.

So far my statement has been on the past effects. The proposed solutions are not quite as clear. I do not believe a series of band-aids is a meaningful cure, although first aid is probably required in some instances. The basic cause must be corrected. That cause is inadequate work in the industrial base, and restrictive uneconomical regulations, making the little remaining work so costly that it cannot continue to exist.

President Reagan's programs have begun to correct some of the underlying problems. Changes in the economy due to the revisions in the tax laws, reduction in the wealth redistribution proportion of the national budget, and economic reviews of environmental protection and other restrictive regulations, should improve the financial climate for industrial base producers. What remains is the need for work within these industries. The Reagan administration has not improved that situation, and unless it does, the other changes will not succeed in rebuilding the industrial base.

If we examine the shipbuilding industry, it is evident that there are two major subdivisions of work. The first is U.S. Navy construction, and the second is commercial work.

The Reagan administration has indicated a desire to increase the size of the U.S. Navy and has been instrumental in proposing a 5-year plan, calling for about 140 ships. This compares to previous 5-year plans ranging from a high of 178 ships in 1974 to a low of 56 in 1978. For comparison, versus these plans, 76 ships were actually ordered from 1977 through 1981.

Unfortunately, even if the full Reagan administration 5-year plan were implemented, there would still be an inadequate workload in the large ship shipbuilding area to insure an adequate industrial base.

Part of the problem, for example, fiscal year 1982 starts tomorrow I believe and, as far as I know, the Navy at this point doesn't know what its budget is going to be.

If the smaller Navy ships are eliminated from consideration, the large ships will be built in 12 shipyards, and these 12 shipyards break down basically into two groups. Two of these yards build nuclear submarines and/or nuclear surface ships. One yard builds destroyer-type ships, and three yards build frigates. Basically, that composes six yards. The other six yards rely on building both Navy auxiliary and amphibious ships and commercial ships. These six yards have received orders for only seven Navy ships in the last 5 years. The best prospects for 1982 are that only one will receive an additional order. Projections beyond 1982 call for about 30 ships of the types built by these yards. These ships are the first to be eliminated when budget cuts are imposed, and the industry has no confidence that most of these ships will be built. The reason for this lack of confidence is that earlier 5-year plans projected that over 20 of these ships would be ordered from 1978 through 1982, but only 4 have been ordered.

The timing of these 20 ships in the current 5-year plan is such that even if ordered on schedule, the work in the shipyards and vendors' plants will not begin until 1985–86, too late by years to preserve even the current low work force.

If shipbuilding industrial base is to consist of more than six shipyards and a limited supplier base, building nuclear ships and combatant ships, commerical ships must be built in U.S. shipyards.

Commercial ships built in Japan cost about one-half of a U.S.-built ship. U.S. shipyards spend about one-half of the price of a U.S.-built ship for U.S.-purchased components and materials. The difference in the price between the United States and Japanese ships is not because of a lack of productivity in U.S. shipyards. Differences between the U.S. economy and the Japanese economy are the primary reason. The Japanese Government has as a goal the exportation of ships to aid the economy of Japan. Various laws, customs, and regulations make the end price of the Japanese ships so much lower than the price of U.S. ships that the United States not only cannot compete with Japan to sell ships on the world market, but also loses most of its domestic ship market to foreign countries.

Simplistic experts propose buying foreign ships in lieu of U.S. ships so long as the price is lower. The exporting of U.S. jobs and of primary industries results. The jobs that U.S. shipbuilders supply are those low-level entry skill jobs which are most needed to replace Government welfare programs. British newspapers have stated the riots in Liverpool were, to a degree, a result of loss of employment due to cutbacks in the adjacent shipyards.

The Reagan administration has greatly reduced the construction differential subsidy, a means of equalizing the cost of an American-built ship with a foreign ship to a U.S. ship operator. The only remaining incentives to an American ship operator to buy and operate a U.S. ship are the Jones Act cabotage laws and the associated laws restricting foreign sale of Alaskan oil. Indications are that the administration is considering some changes in these laws. Both of these regulations are under fire right now and changes in those could have a detrimental effect on the U.S. shipbuilding industry.

An alternative to subsidized shipbuilding and operations, and one which would be favored by the whole maritime industry, is a policy to reserve some portion of shipping to U.S.-built, owned, and operated ships. Every other maritime country has some form of this policy. It not only assures some ship construction, it also insures the existence of a merchant marine of adequate size to serve as a fourth arm of defense.

Such a policy can be adopted in any number of ways, such as the 40–40–20. These are already proven in concept and they are in place and additional agreements could be a law that some portion of coal exported from the United States would be carried on U.S.-built and operated ships. As exports increase, more ships will be required, and since we now carry less than 1 percent of all bulk cargo imports and exports in U.S. ships, it is clear that national security concerns should also endorse this program.

In summation of my statement, the defense industrial base in shipbuilding is continuing to deteriorate and what it needs is more business for the shipyards. Thank you.

[The prepared statement of Mr. French follows:]

Prepared Statement of C. L. French

Gentlemen:

My name is C. L. French. I am president of the largest shipyard on the West Coast, National Steel and Shipbuilding Company, located in San Diego, California. National Steel and Shipbuilding Company, or NASSCO as we call ourselves, is a wholly owned subsidiary of Morrison-Knudsen Company, headquartered in Boise, Idaho.

NASSCO presently employs about 6,800 people, down from 7,600 last January. Based on current projections, this number will drop to below 2,000 in 1983, with this minimal level sustained by ship repair.

I am here on invitation by Senator Jepsen to share with the members of this committee my views on the present problems of the defense related industrial base, especially those problems related to vendors or subcontractors. My remarks will be restricted to the problems related to shipbuilding, but I believe similar problems exist throughout the entire defense spectrum.

The industrial base for large shipbuilding should include geographically dispersed shipyards with expansion capabilities, supported by a domestic supplier industry, also with expansion capabilities. These two industries -- shipyards and suppliers -- should be assured of an adequate supply of raw materials and a transportation system to maintain the flow of materials to them. I do not believe this base currently exists, and I have serious reservations as to our ability to recreate it in a timely manner.

The best way to establish and maintain an industrial base is to create and maintain a level of activity sufficient to ensure that the base is able to exist. In shipbuilding this level of activity does not exist today and has not existed for some time. Consequently, problems, some more serious than others, are now present in the industrial base for shipbuilding.

Shipyards spend from 40 to 70% of the costs of a ship on supplies and equipment. A shipbuilder is a prime contractor, an assembler of components. Suppliers of material and equipment are the key to a shipbuilder's ability to exist. Likewise, the building of a ship is the culmination of the efforts of many workers who will never see the ship or the shipyard where it is being built.

Other nations, Japan as the prime example, have built their whole economy on building and exporting ships. These economies have supported industrial bases of key industries: Steel mills, foundries, forges, electrical equipment manufacturing, pump manufacturing, and other related industries. The United States has never recognized the importance of supporting a shipbuilding industry and, consequently, today we not only do not have an adequate shipbuilding base, but we lack an industrial supporting base as well.

The present shipyard supporting industrial base consists of two groups of suppliers:
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2) Manufactured items, such as main propulsion equipment, deck machinery, electric motors, pumps, valves, and fittings.

In the last ten years, there have been no ships built at NASSCO for either the Navy or under the Jones Act (commercial ships) in which foreign equipment, components, or basic material was not used. In many cases it was a situation of a sole source, and sometimes the only source available to meet delivery requirements was a foreign supplier.

In addition, I am certain that on Construction Differential Subsidy ships built during this same time period (Buy American Act applies to these ships), many U.S.-manufactured machinery contained foreign components, such as castings, forgings, and steel.

If foreign supplies were cut off, drastic shortages in almost all manufactured components and basic material would occur.

This dependence on foreign equipment suppliers and foreign component suppliers is a serious problem when looking at a defense oriented industrial base. It is a factor which I do not believe has been fully evaluated when considerations as to the serious condition of our industrial base have been made. Some of the problems which I will identify may be even more serious than appears when second and third tier suppliers are dependent on foreign sources. One relatively unrecognized dangerous potential problem is that Japan's law forbids exportation of materials to be used on foreign weapons systems. Todate this law has not been enforced, but political pressures could force it into effect at any time, creating a serious situation as many defense subcontractors depend on supplies from Japan.

During the past few decades, we have seen ever accelerating national goals, with laws to support them, leading to the export of our basic industries. Environmental restrictions and wealth redistribution legislation have made it uneconomical for steel mills, foundries and forges to remain in business. If they do

remain, they develop more specialized, highly technical products. Foreign nations, eager to create jobs and to obtain dollars, willingly become suppliers of basic materials, components and equipment as U.S. manufacturers phase out. Some companies attempt to retain reserve facilities while buying foreign cheaper components. But should these standby facilities be reopened, where would the skilled workers to operate them come from?

Most U.S. manufacturers of heavy machinery components are part of a large company that serves many markets. The marine segment within the company therefore is in competition for company funds with other market segments such as utilities, process, gas and oil, aircraft, etc. Companies tend to invest money where the greatest return on investment can be obtained. With no market for marine products, it becomes difficult or impossible to obtain company funds for new machinery or research and development related to marine products. The net result is still more dependency on foreign suppliers by the shipbuilder.

I will give you some specific examples of the problems we have experienced in the vendor-subcontractor areas.

There are only two integrated steel mills west of the Mississippi. These mills are NASSCO's source of supply of U.S. manufactured steel. Kaiser Steel in Fontana, California, has had many problems, mostly related to environmental protection requirements. They are currently considering eliminating their steel making capabilities and becoming a rolling mill, using foreign supplied slabs.

U.S. Steel's Geneva plant is the second source, and it also has had environmental protection problems, at one time so severe as to cause U.S. Steel to consider closing its mill completely.

The U.S. Steel mill at Geneva produces plates of sizes that are smaller than Kaiser's. If Kaiser went out of the steel making business, the Pacific Coast and Mountain Area would be left with a single source of steel plates, restricted as to size. Plates produced at both Kaiser and U.S. Steel mills in the West are not available in higher strength HY 80 and HY 100 grades. These plates must be shipped to the West Coast from eastern mills. Wide flange structural shapes above 18" are not produced in the West and must also be shipped from eastern mills.

NASSCO has not bought foreign steel inspite of many short term opportunities to save money. We have continued to buy domestic steel in order to help keep the western mills in operation. The prospect of a reduced western steel supply is very real today, inspite of our past support.

Large steel castings used for stern frames are at times unavailable in the United States, and we have had to purchase foreign castings. Bethlehem Steel is a sole source of these castings and has a limited capacity. Bucyrus-Erie, General Electric, Birdsboro, and Blau Knox remain in the heavy steel foundry business but rarely have capacity for other than their own corporate needs.

Shipbuilders require many valves. Walworth, Rockwell, Powell, and Crane have been suppliers to the industry for many years. Walworth has been NASSCO's primary supplier of steel high-pressure valves. Walworth has stopped manufacturing U.S.-made valves. They now get all components from Mexico and do some assembly in Texas. Delivery from Rockwell and Powell is such that delays beyond long lead times are standard. Crane is a single-source supplier of many types of valves. Gimple is the only supplier of turbine astern control valves and refuses to comply with U.S. Navy standards. Lonergan-Kunkle are sole source for relief

valves; six-month delays beyond long lead times are standard.

Many types of equipment are sole source, due primarily to inadequate demand which makes it uneconomical for more than one vendor to remain in business. Some examples of these conditions are:

Gyros and Automatic Pilots	Sperry
Anchor and Die Lock Chain (Navy required) (The last Baldt Navy anchor I looked at was cast in Japan)	Baldt
Main Feed Pumps	Coffin
Turbo-driven Van/Axial Blowers	Hardie-Tynes
Rotary Pumps	Delaval IMO
Air Conditioning Equipment	York
Searchlights	Carlysle & Finch

Pumps, electric motors, forced draft fans, and generators are also equipment very limited as to selection of suppliers.

These examples are not all the symptoms of a sick industrial support base but are certainly adequate to prove the presence of the disease.

The letter from Senator Jepsen asked for testimony on the past effect of government policies as well as proposed solutions to the problem within President Reagan's programs.

So far, my testimony has been on the past effects. The proposed solutions are not quite as clear. I do not believe a series of band-aids is a meaningful cure, although first aid is probably required in some instances. The basic cause must be corrected. That cause is inadequate work in the industrial base, and restrictive uneconomical regulations, making the little remaining work so costly that it cannot continue to exist.

President Reagan's programs have begun to correct some of the underlying problems. Changes in the economy due to the revisions in the tax laws, reduction in the wealth redistribution proportion of the national budget, and economic reviews of environmental protection and other restrictive regulations should improve the financial climate for industrial base producers. What remains is the need for work within these industries. The Reagan Administration has not improved that situation, and unless it does, the other changes will not succeed in rebuilding the industrial base.

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Unfortunately, even if the full Reagan Administration five-year plan were implemented, there would still be an inadequate workload in the large ship shipbuilding area to ensure an adequate industrial base.

If the smaller Navy ships are eliminated from consideration, the large ships will be built in 12 shipyards. Two of these yards build nuclear submarines and/or nuclear surface ships, one yard builds destroyer type ships, and three yards build frigates. These yards are building repeat versions of ships delivered in prior years, and the majority of the new construction orders goes to these yards. The long-term effect of building

only repeat orders for two classes of surface ships over many years has been to reduce the industrial base to only the suppliers in the original designs. A result of this policy is that some 35 to 40 destroyer type and approximately 50 frigate type ships either on order or delivered have a main propulsion plant supplied by one manufacturer. This has benefits as to communality of parts, but it has reduced the industrial base so that only two steam turbine manufacturers, two medium speed diesel manufacturers, and no U.S. slow speed diesel manufacturers are available for future orders.

The six remaining shipyards build both Navy auxiliary and amphibious ships and commercial ships. These six yards have received orders for only 7 Navy ships in the last five years. The best prospects for 1982 are that only one will receive an additional order. Projections beyond 1982 call for about 30 ships of the types built by these yards. These ships are the first to be eliminated when budget cuts are imposed, and the industry has no confidence that most of these ships will be built. The reason for this lack of confidence is that earlier five-year plans projected that over 20 of these ships would be ordered from 1978 through 1982, but only 4 have been ordered. The timing of these 20 ships in the current five-year plan is such that even if ordered on schedule, the work in the shipyards and vendors' plants will not begin until 1985-1986, too late by years to preserve even the current low work force.

If the shipbuilding industrial base is to consist of more than six shipyards and a limited supplier base, building nuclear ships and combatant ships, commercial ships must be built in U.S. shipyards.

Commercial ships built in Japan cost about one-half of a U.S.-built ship. U.S. shipyards spend about one-half of the price of a U.S.-built ship for U.S.-purchased components and materials. The difference in the price between U.S. and Japanese ships is not because of a lack of productivity in U.S. shipyards. Differences between the U.S. economy and the Japanese economy are the primary reason. The Japanese government has as a goal the exportation of ships to aid the economy of Japan. Various laws, customs, and regulations make the end price of the Japanese ships so much lower than the price of U.S. ships that the United States not only cannot compete with Japan to sell ships on the world market, but also loses most of its domestic ship market to foreign countries.

Simplistic experts propose buying foreign ships in lieu of U.S. ships so long as the price is lower. The exporting of U.S. jobs and of primary industries results. The jobs that U.S. shipbuilders supply are those low level entry skill jobs which are most needed to replace government welfare programs. British newspapers have stated the riots in Liverpool were a result of loss of employment due to cutbacks in the adjacent shipyards.

The Reagan Administration has greatly reduced the Construction Differential Subsidy, a means of equalizing the cost of an American-built ship with a foreign ship to a U.S. ship operator. The only remaining incentives to an American ship operator to buy and operate a U.S. ship are the Jones Act cabotage laws and the associated laws restricting foreign sale of Alaskan oil. Indications are that the Administration is considering some changes in these laws. Such changes would be detrimental to the needs of the U.S. shipbuilding industry.

An alternative to subsidized shipbuilding and operations, and one which would be favored by the whole maritime industry, is a policy to reserve some portion of shipping to U.S.-built, owned, and operated ships. Every other maritime country has some form of this policy. It not only assures some ship construction, it also ensures the existence of a merchant marine of adequate size to serve as a fourth arm of defense.

Such a policy can be adopted in any number of ways. Bilateral agreements, assuring that a fixed percentage of trade between two countries will be carried in ships of these respective countries, and limiting trade to third parties, is already a proven concept. Additional agreements are needed. A law, providing that some part of coal exported from the United States would be carried in U.S.-built and operated ships could be enacted. As exports increase, more ships will be required, and since we now carry less than 1% of all bulk cargo imports and exports in U.S. ships, it is clear that national security concerns should also endorse this program.

In summation of my testimony, the defense industrial base in shipbuilding is continuing to deteriorate. If we are to become self-sufficient in our ability to rearm ourselves, corrective steps must be taken. Some of the Reagan Administration's actions have the effect of improving the climate for recreating the industrial base, but the true incentive, a market for ships, does not exist. The rebuilding of the Navy is inadequate in scope, size, and timing to have the desired effect. An increased commercial shipbuilding program is the only solution. This program can be accomplished within the Reagan Administration's fiscal and economic programs by enacting laws which will create a market place for U.S.-built, owned and operated ships in the international trade of the United States. The only sound program to rebuild our base is to create a demand for more U.S. ships.

Senator JEPSEN. Thank you, Mr. Lutter. Has there been any recent instance of embargo of shipments to Japan?

Mr. LUTTER. We had one instance earlier this year of a component for a U.S. Navy destroyer tender and it appeared that they would not permit us to bring the casting out of Japan, and due to the efforts of the U.S. Navy, and I understand the State Department, the part was moved into the navy yard in Japan and thus brought out of Japan by the U.S. Navy vessel.

Senator JEPSEN. Could you elaborate for the record on how the Japanese Government provide for their shipbuilding? I know the Government works closely with it, but what is it?

Mr. LUTTER. Basically, the Japanese involvement with their shipyards began 30 years ago. In effect, the Government, working with industry, decided that the shipyards would be the locomotive that pulled the economy—that, in effect, used the steel, used the engines that this produced. Low cost money was awarded to the shipyards. They were encouraged to invest in new facilities. They set up to series produce vessels. That's currently one of their perhaps liabilities in that they set up to turn out tankers one after the other of a standard design, and since that market has now fallen off with the decline in movement of oil around the world, they are somewhat less efficient building one and two of a kind as opposed to series production.

But basically it was a long-term program encouraging full employment in the shipyards and encouraging them to compete in the world markets. Even today this is restated as a policy of Japan in that the shipbuilding industry is one that can consume the products of the nation and support the economy. By exporting the ships, they bring in dollars and they feel that it's essential in Japan to maintain their independence of foreign carriers.

Their concern is that should there be some international incident, such as there was when the Iranian war broke out in the Middle East and you couldn't get ships in and out of the gulf, that they don't want to be dependent on the fleets of other countries to bring the needed raw materials to Japan. So they have tremendous emphasis on their shipbuilding industry.

Senator JEPSEN. Well, the shipbuilding is vital to Japan's economy, would you say?

Mr. LUTTER. Yes, I would.

Senator JEPSEN. How do the high labor costs affect shipbuilding in the United States?

Mr. LUTTER. I'm not sure when you look at higher labor costs—because I understand today the labor costs—total costs when you include all the fringe benefits, et cetera, really aren't a great deal lower in Japan than they are here in the United States.

Senator JEPSEN. That's interesting. You indicated toward the end of your summary here that a law providing some part of our coal export in the United States be carried in U.S.-built ships.

Mr. LUTTER. That would be very beneficial. And when you consider the age of the dry bulk fleet of the United States, I think we are now down to 11 dry bulk American-flag ships with an average age of over 30 years. We just don't have a dry bulk fleet. In a national emergency, to (a) support our military, but (b) to continue the flow of raw materials to the United States. I don't know how we can operate without rebuilding our dry bulk fleet.

I noticed there was someone from the Martime Administration here. I think they have been supporting that for the last 10 or 15 years.

I noticed in the paper this morning the Cabinet apparently is discussing removing the limit on exporting Alaskan oil. Should that happen, that would really have a disastrous effect on U.S. shipbuilding and ship operators. You would see a lot of U.S.-flag tankers going to scrap.

Senator JEPSEN. If Alaska started——

Mr. LUTTER. If the prohibition on the export of Alaskan oil is removed, as I understand from the paper this morning is a possibility, that would eliminate the employment of many U.S.-flag tankers.

Senator JEPSEN. Why is that?

Mr. LUTTER. Because these tankers presently, as long as the Alaskan oil must come down to the lower 48, they have to come down on U.S.-flag ships. If one-third, as I understand it, of that oil is to now go to Japan, it will go on Japanese bottoms and that's one-third of the oil that they won't be carrying on U.S.-flag ships and those tankers that are now in existence—there really won't be the need for them.

Senator JEPSEN. Who has the most modernized fleet of oil tankers? What country?

Mr. LUTTER. I would think that the Japanese have the most modern.

Senator JEPSEN. Who would be second?

Mr. LUTTER. Second probably would be—well, you get into the flags of convenience. I don't know whether you want to discuss that or not, but I would think if you used the flag of convenience approach, then Libya or Panama. But they obviously aren't Libyan or Panamanian owned.

Senator JEPSEN. Thank you, Mr. French. I wish we had more time. It's an interesting subject.

Mr. Raymond E. Walk, executive vice president of the Rayan Associates, Inc., Park Ridge, Ill.

STATEMENT OF RAYMOND E. WALK, EXECUTIVE VICE PRESIDENT, RAYAN ASSOCIATES, INC., PARK RIDGE, ILL.

Mr. WALK. Mr. Chairman, I thank you for inviting me here today.

As general background information, I am a marketing consultant specializing in the broad scope of the foundry industry and headquartered in Park Ridge, Ill. I am representing here today Wells Manufacturing Co., Allou Steel Castings, R. & J. Machinery, and Hayes-Albion Corp. None have placed any restriction on the comments I make today.

It is apparent that my remarks will be directed toward the importance of the foundry industry, a complex subject since foundries affect every segment of the economy. It can be positively stated that reindustrialization of U.S. industry is impossible if it excludes the foundry industry. Historically foundries could not be ignored. This same fact is true today.

The preservation of this important industry directly relates to national security, a sound economy, and productive employment.

In view of these realities, it is expedient for the Congress to initiate the following protective measures:

One. Since we are dealing with taxpayer moneys, the Congress should restrict importation of castings used in conjunction with defense or subsidy contracts.

Two. Require all U.S. manufacturers importing parts, assemblies, and systems relating to Government contracts to furnish in detail an "integration analysis report" listing every item contained in such import by material, weight, type, and origin, using the same system as currently practiced in Mexico and Latin America under joint venture with U.S. firms.

Three. Strengthen the buy-American laws of MarAd's 100 percent U.S.-subsidized content.

Four. Establish liability and settlement limits for industrial equipment manufacturers to stimulate innovation and product development.

Five. To strengthen our industrial defense base, make available long-term, low-interest loans for modernization, implementing advanced technology, and research and development.

Six. Restrain regulatory agencies from implementing regulations whose impact falls unequally upon various industries.

Seven. Restrain the exportation of basic process plants that jeopardize a major segment of the economy.

It is estimated that Congress can enact these measures rather quickly, possibly within 3 months or 6 months.

The role foundries play in the modern industry does not lend itself to simple categorization. As the fifth largest industry in the United States, it maintains a low profile simply because it is essentially small business; 95 percent of approximately 4,000 foundries remaining in the United States today employ fewer than 500 people; 78 percent fewer than 100. The few high production foundries are essential to national preparedness because of capacity, but it is a serious mistake to overlook the importance of that limited capacity that specialize an important support function.

There is serious concern about the erosion of operating foundry units in the United States. To the beginning of this year, 1981, the United States was losing foundries at a rate of approximately four per month. This data is maintained by the American Foundrymen's Society and can be substantially verified by Penton/IPC Publishing Co. in Cleveland, Ohio.

The current recession with its usurious high interest rates has accelerated this alarming trend. The exodus of U.S. automotive foundries from the United States to foreign countries has contributed our problem of an eroding industrial base. Ford Motor Co. will close its Michigan Casting Center, the largest foundry in the United States, December 15, 1981. It has already closed the Ford Specialty Foundry in Cleveland, Ohio, and is in the process of liquidating its equipment. Chrysler, too, has closed its huge and modern Huber Avenue Foundry while General Motors is in the process of phasing out theirs.

The full destructive impact of these closings on the U.S. economy is demonstrated by the fact that while Ford, GM, and Chrysler are closing their modern U.S. foundries they are constructing huge engine plants with accompanying foundries in Mexico, Canada,

South Africa, and other countries for importation into the United States.

Confidential sources from U.S. equipment people involved in constructing these foundries in Mexico, indicate that imports of these engines from Mexico alone may approach 3 million per year, duty free.

What are the ramifications of this shift by the major auto manfacturers? There are approximately 40,000 suppliers to the automotive industry. With strict Mexican laws and similar restrictions placed on these suppliers from other countries, they are excluded from participaring in the manufacture of these engines. Many of these suppliers have extensive investments in modern foundry facilities.

High energy costs and the increased consumption of fuels caused by pollution control devices has caused a dramatic, and unsafe, downsizing of the U.S. automobile. The burden of expensive retooling and shifting of production requirements fell primarily on these supplying industries.

These supplying industries made it possible to quickly mobilize during World War II. Once this expertise is lost, industrial preparedness and the ability for quick mobilization is lost.

The concept of the "world car" the automotives seem to be pushing, and Congress seems to be buying, works against the best interests of the United States. Certainly the cars and trucks suitable for the U.S. market are vastly different than those for Europe, Japan, and other markets.

During the past two decades, the United States has lost 20 percent of its producing foundry units even when compensating for the new ones constructed. It is erroneous to assume that this loss was due exclusively to the replacement by more modern and productive foundries. It has not. The U.S. capacity shortfall has been hidden in most part by foreign castings imported into the United States. Although this evidence exists everywhere, the true level of these imports can only be determined by congressional investigation of major consumers who are obligated to testify under oath.

The International Trade Commission cannot possibly measure up to this task because of its complexity. Presently only one person is responsible for the tabulation of casting imports. In the whole Commission, there are not enough employees to make a proper tabulation since the majority of castings are identified as something other than castings, as individual components or assemblies. In many cases, confusion would be injected because many items could be manufactured by other technologies such as forging, fabrication, powdered metal, and in some cases, even plastic. The end-user, however, controls the specifications and knows by what technology these products were produced.

The major cause of this serious erosion of a strategic U.S. industry can easily be attributed to public policy as directed by the Federal Government since it cannot be correlated with countries like Japan, Germany, Switzerland, and others.

Most devastating of these ill-conceived public policy measures was the implementation of EPA and we are sitting here primarily because

of its accomplishments. The foundry industry contributed less than 1 percent to the industrial pollution problem. It further recognized that the problem existed and made significant strides in solving them during the early 1960's and before—long before Congress formed EPA.

If this burden on foundries was not bad enough, EPA literally stopped or severely delayed modernization and technological growth effectively lessening their ability to compete against imports. EPA's impact on manufacturers of foundry equipment was equally devastating. Any resources foundries had for capital investment was totally consumed by the demands of the agency.

Because EPA had effectively dried up the U.S. market for foundry equipment, equipment manufacturers looked to foreign markets, under the direction of the State Department, mostly toward the Soviet Union and Iron Curtain countries. U.S. industry constructed the world's largest foundry complex on the Kamaz River in the U.S.S.R. This truck manufacturing complex including employee housing is equal in size to Washington, D.C.

The delicate balance that foundries have with national prepardness is demonstrated by the fact that in 1972, less than 2 years after implementation, the Defense Supply Agency began its mysterious visits to the American Foundrymen's Society seeking information on foundry unit population. These visits continued for a year before turning into desperate pleas for assistance to find casting sources for military replacement parts. These were the first foundries EPA impacted upon.

Within 3 years, 350 foundries closed their doors and along with them went the Government's luxury of competitive bidding—providing a source could even be found. Strategic foundries which are classified as one of a kind were under pressure from every side to implement technology which at that time did not even exist.

Many successful foundries simply sold out to avoid the continuing battles with inexperienced EPA inspectors. Major conglomerates which did not feel comfortable with foreign casting sources acquired many of them. Most important, EPA drove foundries from major economic manufacturing centers. To build new facilities, costly environmental impact studies had to be prepared involving literally hundreds of man-hours.

With the absence of grandfather provisions and consultation services, many foundries were expected to gamble investments on pollution control equipment far less in excess of their net worth even though they already had some form of control device.

At issue today is not the subsidization of industry. It is an issue of preservation.

Why is subsidy consistently given to mean something evil? Isn't a tax credit in any form an indirect subsidy? The manipulation of the tax structure either subsidizes or burdens the recipient of the tax regulation or law. Subsidies are also a form of protection. The Tariff Act of 1930 is a good example of this. This act deals with the preservation of the industries needed to maintain the U.S. merchant marine. It literally subdizes the construction of ships and crews traveling between American ports.

An unfair advantage? Hardly, since all other major powers already had such laws to protect their own merchant fleets and would have

quickly forced U.S. ships from their own ports. Today, the merchant fleets of the Soviet Union are the heaviest subsidized in the world.

The ramifications of this action by Congress should be obvious to even the most casual. Ships are mobile. In a national emergency, ships are first to be mobilized. For five decades, Congress has remained unmoved on this issue and steadfastly insisted that the United States preserve the basic industries required to maintain the merchant marine. The law of the land was not to be compromised.

Based on this past congressional thinking, which was determined and logical, how can any consideration be given to the abandonment of laws designed to protect the basic interests of the United States? The most significant subassembly in a ship is its powerplant. How is it possible to construct these massive engines without the use of castings? It cannot realistically be done. The design and production problems would be horrendous even if it could be achieved.

This same logic can be used for the reindustrialization of America. It cannot be accomplished without the preservation of the foundry industry—pure and simple fact.

The arbitrary issuances of waivers by MarAd on taxpayer subsidized construction works against the interests of all U.S. basic industry. Of equal concern is the 50-percent U.S. content of the buy-American provisions covering the Navy and other military construction. Since castings are at the very beginning of the manufacturing process, they are most vulnerable to exclusion from the 50-percent U.S. content provision.

With all the rhetoric of getting Government off the backs of business and the fanfare about deregulation, the agencies which have caused the disarray of U.S. industry remain strangely intact. The immediate repeal of EPA is more than justified transferring the important problems of pollution to the U.S. Public Health Service whose proven performance extends over a history of more than 200 years. In the event of national mobilization, EPA would serve to hinder the effort than to help. OSHA has demonstrated equal irresponsibility.

The reevaluation of our cities as sound economic bases is more than justified. The destruction of this tax generating base by EPA is well documented.

Historically, excluding seats of government, all major cities formed because they had some economic advantage—transportation, concentration of skills or labor, resources or any combination of factors contributing to productivity and sound economic principles. A correlation between foundries and this economic pattern is certainly possible.

The city of St. Louis during the early 1970's conducted a study by its city planning commission to determine what was needed to attract job generating manufacturing to the city. Its findings were that it needed a broad base of foundries to achieve this objective. It dedicated its skill center in 1974 to implement the findings of this study.

Substantiating the importance of manufacturing to the development of a sound economic tax base is a more recent study sponsored by the Illinois State Chamber of Commerce conducted by James Heins, professor of economics, University of Illinois Champaign-Urbana campus.

From these two independent studies, the reindustrialization of our tax-burdened metropolitan centers offers opportunities to relieve the economic pressures that is presently confronting them.

The ability to accumulate capital; the reduction of excess Federal regulation; and the availability of long-term financing at reasonable interest rates will solve many of the headaches confronting foundry management today. Often overlooked is the importance for the preservation of domestic foundry markets for no other reason than to prevent the serious erosion of the industrial base of the United States. Excessively high interest rates, high energy costs, and the freezing of our natural resources affect domestic foundry markets.

It should be quite apparent that our industrial base is in serious trouble. Certainly Congress cannot permit this to continue. Senator, I thank you.

[The prepared statement of Mr. Walk, together with supporting documents, follows:]

Prepared Statement of Raymond E. Walk

Mr. Chairman and Members of the Committee:

My name is Raymond E. Walk, Executive Vice President of Rayan Associates, Inc. I am a marketing consultant specifically directed toward the foundry industry.headquartered in Park Ridge, Illinois. I am representing Wells Manufacturing Company, Skokie, Illinois, a strategic high alloy foundry employing approximately 250; Allou Steel Castings, Chicago, Illinois, a low volume steel specialty foundry employing 20; R&J Machinery, Anniston, Alabama, owning a heavy gray iron foundry and one manufacturing steel castings employing roughly 50; Core-Lube, Inc., Danville, Illinois, a technologically intensive supplier of products to foundries employing approximately 100, and; Hayes-Albion Corporation, Jackson, Michigan, a major supplier of castings and other components to the automotive industry employing in excess of 3,000 in 15 plants thoughout the U.S.

It is apparent that my remarks will be directed toward the importance of the foundry in dustry, a complex subject since foundries effect every segment of the economy. It can be positively stated that re-industrialization of U.S. industry is impossible if it excludes the foundry industry. Historically foundries could not be ignored. This same fact is true today.

The preservation of this important industry directly relates to National Security, a Sound Economy and Productive Employment. Realistically a Nation cannot survive unless it recognizes the role a strong diversified base of foundries plays in:

1. Maintaining a strong Merchant Marine.

2. Maintaining a thriving transporation network.

3. Development of essential resources.

The role foundries play in modern industry does not lend itself to simple catagorization. As the fifth largest industry in the U.S. it maintains a low profile simply because it is essentially Small Business. 95% of the approximately 4,000 foundries remaining in the U.S. today employ fewer than 500 people, 78% fewer than 100. This does not detract from their importance.

To demonstrate this point, the closing of 50 to 75 strategic foundries would totally shut down the U.S. economy. This tells us that foundries are not all the same. They must deal in an infinite number of processes, metals and products to satisfy the needs of the end user. This also tells us that in most cases there are practical economic limits to the size a foundry can be. The few high production foundries are essential to National Preparedness because of capacity, but it is a serious mistake to overlook the importance of those of limited capacity that spec ialize in an important support function.

When we look directly at castings, we normally do not recognize them as such. We recognize castings as a component or finished product. The average American single family home contains over two tons of casting, yet in all probability its occupants would be hard pressed to recognize a single one as a cast product.

It is because of this flexible characteristic of cast metal that its application becomes so broad and a single industrial classification for foundries becomes so difficult. Too often foundries are confused with the primary metals industries, a poor comparison since foundries basically use these industries as a source of raw materials and oftentimes actively compete for resources such as coke, metal and alloying materials.

THE U.S. FACES SERIOUS EROSION OF OPERATING FOUNDRIES

There is serious concern about the erosion of operating foundry units in the U.S. To the begining of this year, 1981, the U.S. was losing foundries at a rate of approximately four per month. This data is maintained by the American Foundrymen's Society and can be substantially verified by IPC/Penton Publishing Company in Cleveland, Ohio.

The current recession with its usurious high interest rates has accelerated this alarming trend. The exodus of U.S. automotive foundries from the U.S. to foreign countries has contributed to our problem of an eroding industrial base. Ford Motor Company will close its Michigan Casting Center, the largest foundry in the U.S. December 15, 1981. It has already closed the Ford Specialty Foundry and is in the process of liquidating its equipment. Chrysler, too, has closed its huge and modern Huber Avenue Foundry while General Motors is in the process of phasing out their's.

The full destructive impact of these closings on the U.S. economy is demonstrated by the fact that while Ford, GM and Chrysler are closing their modern U.S. foundries they are constructing huge engine plants with accompanying foundries in Mexico, Canada, South Africa and other countries for importation into the U.S.

The Department of Transportation claims that the ultimate import of these engines into the U.S will approximate 2-1/2 million per year. Confidential sources from U.S. equipment people involved in constructing these foundries in Mexico, indicate that imports of these engines from Mexico alone may approach 3 million -- duty free.

What are the ramifications of this shift by the major auto manufacturers? There are approximately 40,000 suppliers to the automotive industry. With strict Buy Mexican laws and similar restrictions placed on these suppliers from other countries, they are excluded from participating in the manufacture of these engines. Many of these suppliers have extensive investments in modern foundry facilities.

High energy costs and the increased consumption of fuels caused by pollution control devices has caused a dramatic, and unsafe, down sizing of the U.S. automobile. The burden of expensive re-tooling and shifting of production requirements fell primarily on these supplying industries.

These supplying industries made it possible to quickly mobilize during World War II. Once this expertise is lost, industrial preparedness and the ablility for quick mobilization is lost.

The concept of the "World Car" the automotives seem to be pushing, and Congress seems to be buying, works against the best interests of the U.S. Certainly the cars and trucks suitable for the U.S. market are vastly different than those for Europe, Japan and other markets.

U.S. NATIONAL FOUNDRY CAPACITY SHORTFALL HIDDEN BY IMPORTS

During the past two decades, the U.S. has lost 20% of its producing foundry units even when compensating for the new ones constructed. It is erroneous to assume that this loss was due exclusively to the replacement by more modern and productive foundries. It has not. The U.S. capacity shortfall has been hidden in most part by foreign castings imported into the U.S. Although this evidence exists everywhere, the true level of these imports can only be determined by Congressional investigation of major consumers who are obligated to testify under oath.

The International Trade Commision cannot possibly measure up to this task because of its complexity. Presently only one person is responsible for the tabulation of casting imports. In the whole Commission, there are not enough employees to make a proper tabulation since the majority of castings are identified as something other, as individual components or assemblies. In many cases confusion would be injected because many items could be manufactured by other technologies such as forging, fabrication, powdered metal, and in some cases, even plastic. The end-user, however, controls the specifications and knows by what technology these products were produced.

ILL-CONCEIVED U.S. PUBLIC POLICY

The major cause of this serious erosion of a strategic U.S. industry can easily be attributed to Public Policy as directed by the Federal Government since it cannot be correlated with countries like Japan, Germany Switzerland and others.

Most devastating of these ill-conceived Public Policy measures was the implementation of EPA and we are sitting here primarily because of its accomplishments. It had done in effect what no adversary power could hope to achieve and struck at the very heart of industry. The foundry industry contributed less than one percent to the industrial pollution pro blem. It further recognized that the problem existed and made significant strides in solving them during the early 1960's and before -- long berfore Congress formed EPA.

If you consider these conclusions strong, then judge from what William D. Ruckelshaus, father of clean air rules has to say. "It is clear that as cleanup costs escalate out of sight, with hundreds of millions of dollars spent for no benefit, this thing has become insane. The public winds up paying for something of highly doubtful benefits."

EPA DEVISTATES FOUNDRY CAPITALIZATION

If this burden on foundries wasn't bad enough, EPA literally stopped or severely delayed modernization and technological growth effectively lessening their ability to compete against imports. EPA's impact on manufacturers of foundry equipment was equally devistating. Any resources foundries had for capital investment was totally consumed by the demands of the agency.

Because EPA had effectively dried up the U.S. market for foundry equipment, these manufacturers looked to foreign markets, under the direction of the State Department, mostly toward the Soviet Union and Iron Curtain countries. U.S. industry constructed the world's largest foundry complex on the Kamaz River in the U.S.S.R. This truck manufacturing complex including employee housing is equal in size to Washington, DC.

Today, foundry equipment manufacturers again find themselves under assault by ill-conceived Policies of usurious interest rates which seemingly are designed to destroy the economy rather than correct its ills. Little action is taken to remove the heavy burden of Product Liability from these important manufacturers.

The delicate balance that foundries have with national preparedness is demonstrated by the fact that in 1972, less than two years after implementation, the Defense Supply Agency began its mysterious visits to the American Foundrymen's Society seeking information on foundry unit population. These visits continued for a year before turning into desperate pleas for assistance to find casting sources for military replacement parts. These were the first foundries EPA impacted upon.

Within three years, 350 foundries closed their doors and along with them went the Government's luxuary of competitive bidding -- providing a source could even be found. Stategic foundries which are classified as one of a kind, were under pressure from every side to implement technology which at that time did not even exist.

Many successful foundries simply sold out to avoid the continuing battles with inexperienced EPA inspectors. Major conglomerates which did not feel comfortable with foreign casting sources acquired many of them. Most important, EPA drove foundries from major economic manufacturing centers. To build new facilities, costly Enviornmental Impact Studies had to be prepared involv ing literally hundreds of man hours.

With the absence of grandfather provisions and consultation services, many foundries where expected to gamble investments on pollution control equipment far in excess of their net worth even though they already had some form of control device.

MISLEADING CONCEPTS OF FREE TRADE

At issue today is not the subsidization of industry -- it is an issue of preservation. Will the term re-industrialization become another mysterious news media code word to be analyzed, re-analyzed and then projected in confusion to the general public? We have been confronted with this sort of thing before. "The world is getting smaller" was extensively used in minimizing the importance of domestic industry. Surely we are aware of the fact that artificially induced high energy costs have made the world considerably larger again.

"Free trade" is another deception since how can it be "free" when unsubsidized industries like the U.S. foundries are forced to compete against subsidized foreign competition? Those who claim that this concept creates domestic employment had better re-examine the impact this has on small and moderate sized corporations since it is this group that is the largest employer of people in the U.S.

Why is subsidy consistantly given to mean something evil? Isn't a tax credit in any form an indirect subsidy? The manipulation of the tax structure either subsidizes or burdens the recipient of the tax regulation or law. Subsidies are also a form of protection. The Tarrif Act of 1930 is a good example of this. This Act deals with the preservation of the industries needed to maintain the U.S. Merchant Marine. It literally subsidizes the construction of ships and crews traveling between American ports.

An unfair advantage? Hardly, since all other major powers already had such laws to protect their own merchant fleets and would have quickly forced U.S. ships from their own ports. Today, the merchant fleets of the Soviet Union are the heaviest subsized in the world.

The ramifications of this action by Congress should be obvious to even the most causal. Ships are mobile and historically glamourous, something the foundry industry failed to achieve. In a national emergency, ships are first to be mobilized. For five decades, Congress has remained unmoved on this issue and steadfastly insisted that the U.S. preserve the basic industries required to maintain the Merchant Marine. The law of the land was not to be compromised.

Based on this past Congressional thinking, which was determined and logical, how can any consideration be given to the abondonment of laws designed to protect the basic interests of the U.S.? The most significant sub assembly in a ship is its power plant. How is it possible to construct these massive engines without the use of castings? It cannot realistically be done. The design and production problems would be horrenddous even if it could be achieved.

This same logic can be used for the re-industrialization of America. It cannot be accomplished without the preservation of the foundry industry -- pure and simple fact.

The arbitrary issuances of waivers by MarAd on taxpayer subsidized construction works against the interests of all U.S. basic industry. Of equal concern is the 50% U.S. content of the Buy American provisions covering the Navy and other military construction. Since castings are at the very begininy of the manufacturing process, they are most vulnerable to exclusion from the 50% U.S. content provision.

RECONSTRUCTING THE U.S. INDUSTRIAL COMPLEX

With all the rhetoric of getting Government off the backs of business and the fanfare about de-regulation, the agencies which have caused the disarray of U.S. industry remain strangely intact. The immediate repeal of EPA is more than justified transfering the important problems of pollution to the U.S. Public Health Service whose proven performance extends over a history of more than 200 years. In the event of National Mobilization EPA would serve to hender the effort than to help. OSHA has demonstrated equal irresponsibility.

The re-evaluation of our cities as sound economic bases is more than justified. The destruction of this tax generating base by EPA is well documented.

Historically, excluding seats of government, all major cities formed because they had some economic advantage -- transportation, concentration of skills or labor, resources or any combination of factors contributing to productivity and sound economic principles. A correlation between foundries and this economic pattern is certainly possible.

The City of St. Louis during the early 1970's conducted a study by its City Planning Commission to determine what was needed to attract job generating manufacturing to the City. Its findings were that it needed a broad base of foundries to achieve this objective. It dedicated its Skill Center in 1974 to implement the findings of this study.

Substantiating the importance of manufacturing to the development of a sound economic tax base is a more recent study sponsored by the Illinois State Chamber of Commerce conducted by James Heins, Professor of Economics, University of Illinois Champaign-Urbana Campus.

From these two independent studies, the re-industrialization of our tax burdened metropolitan centers offers opportunities to releave the economic pressures that is presently confronting them.

WHAT ARE THE SOLUTIONS TO THE FOUNDRY'S PROBLEMS?

The ability to accumulate capital; the reduction of excess Federal Regulation; and the availability of long term financing at reasonable interest rates will solve many of the headaches confronting foundry management today. Often overlooked is the importance for the preservation of domestic foundry markets.for no other reason than to prevent the serious erosion of the industrial base of the U.S. Excessively high interest rates, high energy costs and the freezing of our natural resources affect domestic foundry markets.

There is little justification for the abandonment or softening of Buy American provisions relating to either MarAd or the military if the U.S. intends to preserve its industrial base. These laws should be restructured in such a manner as to provide injured domestic suppliers compensation for arbitrary violation. Since military expenditures are supported by U.S. tax dollars, as are the subsidies administered by MarAd, logic concludes that the same rules should apply.

The domestic climate that causes a major industry such as the automotive to withdraw their basic manufacturing processes from the U.S. certainly needs re-examination because of the major impact this has on National Security.

At the other end of the spectrum and because foundries are basically Small Business, do current Estate Tax Laws in effect impact on capital investment?

The supply side to any industry is of vital importance to the producer. It is one the suppliers' R&D and innovations the producers heavily relies upon to improve productivity. Current Product Liability decisions suppresses innovation of the equipment manufacturer. The current tort revisions under consideration do not consider these important manufacturers as having a separate and distinct problem caused by the immunity for the employer created by employee compensation laws. Limits need to be established for the manufacturer as well who in most cases carries the burden even though the real responsibility for injury was not his.

hayes-albion
corporation

Charles E. Drury
chairman of the board
and president

February 25, 1981

The Honorable Drew Lewis
Secretary of the Department of
Transportation
Washington, D. C. 20500

Dear Secretary Lewis:

During the course of our meeting with you on Friday, February 27, 1981, (Auto Suppliers Action Council), a number of very important concerns and recommendations will undoubtedly be advanced for your consideration. In order to save discussion time, I felt it would be helpful to present some important background information to you in a written summary.

Our company, Hayes-Albion Corporation, is a very typical example of a mid-sized firm supplying parts and assemblies to the automobile industry. We have 15 plants located in seven states and manufacture a variety of products such as ferrous castings, aluminum castings, engine fans and pulleys, trim products, exhaust systems, window assemblies, door frames, and a variety of machined products and assemblies.

In more normal times our sales would be approximately $300 million annually with approximately 80 percent of our product sales going to the automotive industry. Because of the diversity of our product activities, there is no single spokesman for Hayes-Albion such as a trade association. That problem is magnified when you consider that the supplier industry is estimated to include approximately 40,000 such supplier companies ranging in size from five employees to over 500, and provide a multitude of products and services at a number of levels within the production chain leading to a finished automobile. Many of the other companies represented at our joint meeting will be presenting positions which are representative of their specific segments within the supplier structure. Since three of the companies present -- Hayes-Albion Corporation, Auto Specialties Manufacturing Company, and CWC Castings Division of Textron -- are heavily involved in the castings business, I will speak to that business segment.

The Report to the President from the Secretary of Transportation dated January, 1981, contains information which addresses the problems confronting the automotive castings industry. The schedule on Page 76 shows that iron castings tonnage going into automotive parts and components was approximately 4.7 million tons in 1978. That tonnage was projected to decline to somewhere between 1.6 and 2.3 million tons by 1985. A further projection into the mid-1990's reflected reductions to approximately .7 to 1.8 million tons per year. That is a significant amount of capacity left idle because of technology shifts and material substitutions within a major segment of the economy.

A further example of the significant concerns facing the castings suppliers can be seen in table 4.8 on Page 56 of the same report. The chart projects an estimate of the automobile engines which will be manufactured outside of our country and shipped into the United States to support the production requirements for U. S. manufactured vehicles. If those estimates materialize, it will result in approximately 3.4 million assembled engines being produced outside of the United States beginning in model year 1982. This could be the result of the automobile manufacturers being confronted with some hard choices in working within the framework of local content requirements outside of this country and dealing with economies of scale for tooling within the world car concept. If these sourcing considerations do materialize, one could reasonably anticipate a further reduction of castings tonnage because of off-shore foundry sourcing to support that engine production. It is our estimate that by 1985 there will be approximately 275 lbs. of ferrous iron castings in the average-sized U. S. produced automobile. Approximately 60 percent of the ferrous iron content is in the engine, so you can see the impact this will have as more and more engines are sourced from outside of the United States. This is why we have continually made the point that the world car concept which is being developed by the major car producing companies will not really help the majority of the U.S. based suppliers. Not only would the casting suppliers be affected by those "local content" decisions, but other suppliers providing components for those engines would be similarly affected.

Another point which has not been made in the Department of Transportation's report is the fact that when a large number of the ferrous cast products were replaced by aluminum products, a large percentage of those new parts was sourced from off-shore. I am attaching a copy of one of our planning documents which identifies the companies and countries which are supplying this new "aluminum" requirement.

We thank you for this opportunity to provide some additional insight into issues which we feel are vital to both the short and long term viability of the U. S. automotive supplier network. We urge you to do everything within your power to ensure that the supplier industry is heard from and given the opportunity to present its position thoroughly before policies are made or legislation enacted which will further deteriorate our ability to support the continuing industry transition and growth.

As additional background material, I have enclosed a copy of my written and oral testimony which was presented before Senator Danforth's Senate Finance Committee, Subcommittee on International Trade. The hearing date was January 15, 1981, and allowed the supplier group, which I represented, an opportunity to address many of our earlier concerns. Those concerns focused on clarifying an apparent inadequate government understanding of our size, our diversity, the capital investment which we represent, and the importance of our 40,000-plus companies as the glue which binds the industry together technologically and productively.

Very truly yours,

Charles E. Drury

Encl.

ORAL TESTIMONY PRESENTED BY CHARLES E. DRURY ON BEHALF OF AMICUS BEFORE THE COMMITTEE ON FINANCE, SUBCOMMITTEE ON INTERNATIONAL TRADE, ON JANUARY 15, 1981.

Mr. Chairman and members of the Committee, my name is Chuck Drury. I am Chairman of the Board and President of Hayes-Albion Corporation. With me today are: Walter F. Brown, vice president of Uniroyal, Inc.; W. Frederick Meyer, vice president of Arvin Industries, Inc.; Dr. Donald Barnett, economist, American Iron and Steel Institute; Robert W. Carlton, senior vice president - administration, Hayes-Albion Corporation; and our counsel, Paul D. Cullen.

Hayes-Albion has 15 small plants located in 7 states with approximately 70% of their sales going to the automotive industry. I appear today on behalf of an organization known as AMICUS (Automotive Materials Industry Council of the United States). AMICUS is a combination of producers of materials, parts, and components essential to the manufacture of automobiles.

Five minutes is a very short time to present all of the facts and problems of this group. There are three major facts about this group that I want to accentuate. First, the massive size in regard to number of businesses, total employment, annual sales, and total investment. Secondly, the severity of the problem of this group. Thirdly, the market constraints of the majority of the companies in this group.

In regard to size, there are very few large companies, some medium size, many small companies, and many, many very small firms. The Department of Transportation estimates there are 40,000 separate firms, and I might add that many of these are located in very small towns throughout the United States. These firms employ three times the number of people employed by the OEM automotive manufacturers.

Their total sales are estimated to be $70 billion annually, and their capital investment is equal to or greater than the OEM companies. And finally, the broad base capabilities of all of these firms are very important to the national security of our country.

In regard to the severity of their problems, as you know, the car companies are making major design changes to accomplish their objectives. Supplier firms have three alternative courses of action: 1) refacilitize and retool for the redesigned parts or sub-assemblies requiring major capital investments with a lead time normally of one to two years before the new model is introduced. 2) facilitize this plant and tool it for new products to go to new markets. 3) go out of business and close the plant, which many are doing today.

Those pursuing alternative number one have spent sizeable sums of money and are currently encountering major losses due to the depressed market for U.S. produced cars, the significant increases in imported cars, and of course the recession and high cost of money.

Those pursuing alternative number two are having similar problems since it is very difficult to introduce new products to new markets when the general economy is down.

Those who have chosen alternative number three have closed their doors, causing a significant erosion of our domestic manufacturing base which weakens our defense mobilization capability.

Finally, in discussing market constraints, this problem is big and it is unique to most of the companies in this group. First, they are bordered on the north by trade agreements and on the south by a country with local content laws. Secondly, the world car concept precludes most of these small companies from exporting to other countries since they have no foreign manufacturing facilities or foreign marketing capabilities. And, of course, there are also import duties or commodity taxes that may prevent them from being competitive. And without local content laws in the United States, this group's market is shrinking drastically. It is a one way street -- the foreign companies are sourcing parts and some assemblies to the United States.

In closing, our written testimony suggests three broad remedial considerations. Our panel will discuss them in detail if you desire.

Thank you.

(NOTE: Remedial considerations suggested by AMICUS are attached.)

CED/nb
1/19/81

QUESTIONS FOLLOWING ORAL TESTIMONY BEFORE THE COMMITTEE ON FINANCE, SUBCOMMITTEE ON INTERNATIONAL TRADE, JANUARY 15, 1981

Question: (Senator Danforth) How are your companies restricted from enjoying business of foreign manufacturers who come to the United States?

Answer: (CEDrury) Senator, because of Mexico's local content laws, Volkswagen had to put their engine plant, for engines to be assembled in their U.S. produced cars, in Mexico. Our Company specifically lost the opportunity to make the castings for that assembly.

Question: (Senator Danforth) Who are all these suppliers, or how do you identify them?

Answer: (CEDrury) Senator, when I worked for General Motors, we used to hand out a brochure -- and incidentally this has been quite a few years ago -- entitled, "Our 50,000 (or maybe it was 25,000) Suppliers and G.M." We got our figure of 40,000 from the Department of Transportation report.

Note: When I was leaving the hearing room, Senator Danforth's legislative assistant, Dave Kautter, stopped me and requested that somehow we attempt to describe this supplier group -- who they are and all about them -- and get it to him as soon as possible since the Senator wishes to report to the full Finance Committee within two weeks.

RECOMMENDATIONS BY AMICUS FOR RELIEF
PRESENTED TO THE COMMITTEE ON FINANCE,
SUBCOMMITTEE ON INTERNATIONAL TRADE
ON JANUARY 15, 1981

AMICUS endorses a three-pronged attack on the crisis now facing the automotive industry.

First, steps must be taken to stimulate sales of current model automobiles. The vital network of auto dealers is in precarious financial condition because of depressed sales. Since the fourth quarter of 1979, approximately 2,300 domestic dealerships have closed because of the present crisis. For every dealership which is lost, the ability to market the automobiles of the future is diminished. Moreover, depressed sales prevent both the automobile manufacturers and suppliers from amortizing their investment in tooling for current models against current production and sales.

Sales of current model automobiles can be stimulated through a variety of measures including the creation of tax credits for those who purchase new automobiles, bounties on the retirement of older vehicles, and the voluntary reduction in auto imports brought about by the activities contemplated in S. J. Res. 5 and H. J. Res. 5. Sales of current model cars and the retirement of older vehicles will have the added benefit of improving the average fuel consumption for automobiles in the U.S. fleet.

Second, assistance should be provided to enable both manufacturers of automobiles and their suppliers to meet the enormous capital demands of the current downsizing program. Tooling for the next generation of smaller vehicles is the most massive, abrupt and technically demanding program faced by our automotive industry. These huge capital demands on the industry's productive base requires several years of planned utilization and amortization of existing tools and equipment in order to recover present investment for subsequent reinvestment in this downsizing effort.

In drafting tax relief for the automotive industry, this Committee must be aware that "what's good for the goose isn't necessarily good for the gander." Tax measures which assist the auto manufacturers may not provide the same benefit for their suppliers. In such cases alternative forms of tax relief tailored to the specific needs of each segment of the automotive industry must be provided. AMICUS recommends that this Committee give serious consideration to the following elements of tax relief:

-- more rapid depreciation of current plant and equipment in order to prepare for future investment requirements

-- extension of the net operating loss carry back period from three to six years

-- extension of the investment tax credit carry back from three to six years

-- creation of a special and immediately refundable investment tax credit for equipment used in the automotive industry

The third prong of attack must address a problem which is peculiar to automotive parts suppliers. The members of AMICUS are deeply concerned about the long-term prospects for U.S. parts suppliers. Many countries of the world have erected trade barriers, typically local content requirements, which prevent free trade in automotive parts and equipment. By contrast, there is practically unlimited access to the U.S. market in these products. Under these circumstances, the largest segment of the domestic automotive industry is placed at a critical disadvantage as major international manufacturers develop the so-called "world car."

The U.S. International Trade Commission should be directed to monitor trade on automotive parts and equipment, published detailed statistics and evaluate for possible future action the non-tariff barriers to trade on these products erected by our trading partners on these products.

BEFORE THE
SUBCOMMITTEE ON INTERNATIONAL TRADE
COMMITTEE ON FINANCE
UNITED STATES SENATE

TESTIMONY
OF THE
AUTOMOTIVE MATERIALS INDUSTRY COUNCIL
OF THE UNITED STATES

(a.k.a. "AMICUS")

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SUMMARY

AMICUS, the Automotive Materials Industry Council of the United States, represents the largest segment of the automotive industry. In terms of employment, investment and geographic scope, the suppliers of parts, components and basic materials essential to automobile production dwarf the final assembly and distribution segments of the industry. Yet analysts and policymakers have heretofore concentrated on "Detroit" or the "Big 4" in their evaluation and proposals for recovery.

Suppliers and manufacturers face the same crisis: the need to raise massive amounts of investment capital necessary to retool for the next generation of small, fuel-efficient cars during a period of plummeting sales and profits. A comprehensive program for recovery must be initiated now to assist each segment of the automotive industry—manufacturers, suppliers, and dealers—in the massive reindustrialization of the automotive industry. Only a combination of measures including stimulation of current automobile sales, reduction in automobile imports and creation of investment incentives tailored to meet the needs of each segment of the industry will be effective. Otherwise, thousands of jobs, an enormous productive capacity, and the future industrial strength of the United States are in peril.

Foundry Equipment Manufacturers Association Incorporated

A Position Statement:
PRODUCT LIABILITY FOR INDUSTRIAL ACCIDENTS
by Frank B. Hall, P.E.

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A Note About the Author

Major credit for this position paper goes to Frank B. Hall, P.E., Consulting Engineer and Patent Attorney at Beardsley & Piper Division of Pettibone Corporation. Mr. Hall has devoted a great deal of time and energy to the study of product liability, and this statement represents a culmination of his ideas and efforts.

Product Liability for Industrial Accidents was originally presented to the First World Congress on Product Liability in January of 1977, later to be revised for submission to the Foundry Equipment Manufacturers Association, Inc. (of which Beardsley & Piper Div. is a member).

After receiving unanimous endorsement by FEMA's Committee on Product Liability, the position paper was adopted by the Association as its definitive statement concerning product liability litigation.

In this paper, Mr. Hall has spoken not only for himself and his company, but for the entire industry which FEMA represents.

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"Indeed a product liability system for dealing with accident losses occurring in the course of the use of industrial and commercial products need not logically be the same as that for products intended for use by the consuming public at large.

"As for products intended for industrial and commercial use, fault might well be a requisite to recovery, especially in the light of two other liability-without-fault schemes applicable to the users of these products – the workmen's compensation system for the protection of employees and the abnormally dangerous activity doctrine applicable in most jurisdictions that protects bystanders in many situations."

THE MEANING OF DEFECT, PAGE KEETON, 5 St. Mary's Law Journal 30, (1973)

PROPOSED SOLUTIONS

****1. Legislation declaring that any injured party whose injury falls under the provisions of a workmen's compensation act be limited to the provisions of that act for determination of his damages and limited to his employer for their recovery.

****2. (a) That the employer has the right of recovery of part or all such damages against the manufacturer of a machine or product causally related to the injury, the suit being brought in the employer's name.

(The action is to be identified statutorily as a *"right of recovery of compensation."* It is obviously not a subrogation action since under this proposal the employee has no right against the manufacturer to which the employer could be subrogated.

Because of the various interpretations and limitations on *contribution* and *indemnification* in the various jurisdictions, it would be advisable in carrying out the intent of this right of recovery to distinguish it from such actions.

It is also quite possible that by treating this as a specialized action, that allocation of fault (under the negligence theory) could be incorporated even in a State that had only contributory negligence.)

*** (b) That the action of recovery be permissible only as a tort action based on negligence, breach of warranty and strict liability being prohibited as inappropriate remedies for the purpose.

*** 3. That all usual, ordinary, and traditional defenses to a negligence action be available to the defendant including (according to the jurisdiction) contributory or comparative negligence on the part of the injured employee, fellow-employees, or the employer.

** 4. That a complete defense to the charge of foreseeable misuse would be the showing that the misuse was a violation of a recognized and generally accepted shop rule of safety. (Example: Violation of the rule never to measure or adjust the work with the machine in operation.) Stated another way, showing that the misuse was identifiable as an act recognizable as a "critical incident" as that term is used in safety engineering, would be a complete defense in a "right of recovery" action.

** 5. That the manufacturer be notified promptly of an accident and be granted full and immediate access to relevant records, witnesses, and the accused product. That these conditions be conditions precedent to the bringing of any later "right of recovery" action by the employer.

**** 6. Statute of limitations to apply on the basis of negligence; and that in any case no suit shall be

brought on any product more than six years after shipment by the manufacturer.

* 7. That an action for recovery (see par. 2(a)) by the employer or the employer's insurance carrier would be reviewed by a board of experts to determine whether there was sufficient merit and plausibility to the case to permit it to go to trial.

8. By mutual consent, the parties could elect to have the judgment made by the review board, with costs borne equally by the parties.

9. That the burden of the present liberal discovery process permitted by the courts in interrogatories and depositions be lightened for both sides by a preliminary review and determination. This review by a board of experts would limit the areas in which discovery might proceed. Their decision regarding such limitations would have a presumptive effect in a subsequent suit, but the presumption would be rebuttable.

COMMENT

Listed in order of importance (indicated by *) and desirability, the paragraphs are:

****	a	(a)	1,	2(a), 6
***	b	(b)	2(b),	3
**	c	(c)	4,	5
*	d	(d)	7	
	e	(e)	8,	9

(Paragraphs 8 & 9 are subject to future consideration)

Under the above proposals in which all of the involved parties are included fairly, workmen's compensation would more nearly serve the purposes for which it was intended—assured prompt compensation for the injured employee and an end to wasteful protracted litigation in which only the attorneys profit.

The *employer* has the greatest continuing control of the product. He is responsible for its proper maintenance, its proper use, and is responsible for training and instructing those who will use the machine or product. He is also responsible for adherence to shop safety rules and the prevention of unsafe acts. Also, he is the one who continues during the lifetime of the machine to profit from it. He therefore will continue to have a primary responsibility in workmen's compensation.

The *manufacturer* has only a single, one-time profit at the time of sale. If, however, an injury results because of the manufacturer's negligence in the design or manufacture of the machine, he can be held answerable if in fact he be negligent. This is accomplished by the employer's right of recovery of compensation.

In any personal injury suit, with sympathy sitting in the jury box, it is hard to bring justice into the courtroom. This objection would not obtain in a suit for recovery of compensation, for in that case, the two parties to the suit are both uninjured. There is no sympathetic bias for either side. A fair trial of the facts could be anticipated.

The objection to the foregoing proposals is often that awards under workmen's compensation are not adequate. The answer is to make the awards adequate and not pursue the present irrational system of litigation against the manufacturer to the final breakdown of our economic system.

DISCUSSION

The machine as a typical industrial product

For convenience in reference and because it is particularly illustrative of many of the issues involved, the machine is selected as representative of industrial products in general.

The present situation

An employee falls off a walkway in his employer's workplace and is injured. Regardless of fault he receives compensation under the workmen's compensation act.

Alternately, the employee falls off a *machine* in his employer's workplace and is injured. Again, regardless of fault he receives compensation under the workmen's compensation act.

Now, supported by compensation payments, he brings suit against the manufacturer of the machine. He is already receiving compensation through routine application, and all that he needs to show is the work-related injury. Even if he should fail in his suit against the manufacturer, his compensation is not affected. During the trial the jury is never permitted to learn of this compensation. (They must continue to believe that if he does not succeed in the litigation, he will receive nothing.)

In some of the discussions of strict liability, there is the implicit argument that the injured party being under great financial pressure because of medical bills and loss of income should be favored with a legal scheme that will facilitate his successful litigation against the manufacturer. If in fact there be any validity to the argument with regard to consumer products, it fails utterly under the facts of the industrial accident.

The "lost right" of the manufacturer under workmen's compensation

The justification of the original compensation acts was straightforward. Both the employee and the employer gave up established rights in exchange for new rights. Regardless of fault, the employee when injured receives assured compensation. The employer in agreeing to such no-fault compensation receives immunity from suit by the employee. This was the basic constitutional justification for the acts.

In effect it was an "agreement" between two parties arranged by the legislature. The employee received the assurance of compensation even if he were at fault, and the employer was immunized from suit even if he were at fault. But immunization affected other rights, namely those of the manufacturer who *lost his right* to sue the employer!

The manufacturer's relation was never discussed except incidentally. At the turn of the century when workmen's compensation acts were first being passed, an employee's suit against the manufacturer instead of his employer was virtually unheard of. Later, when the manufacturer was sued and he tried to bring the employer in, the courts in most cases insisted that the workmen's compensation act had insulated the employer and denied the manufacturer the right to sue that employer.

As one jurisdiction states simply: "that which may not be done directly, may not be done indirectly." The defendant manufacturer may not make the employer a defendant when the workmen's compensation act has precluded the employee from suing the employer directly.

The refusal of the courts to recognize the manufacturer's right is now predicated upon the *existence* of a workmen's compensation act; and that act came into existence only by ignoring the manufacturer's real part in the relationship!

Ironically, it was the very immunity of the employer from suits by the employee that eventually shifted the focus of litigation to the manufacturer. Jury awards exceeded compensation awards by an order of magnitude, and legal fees were fatter and juicier in litigation. Because the employer was immune from suit, it now became the lucrative task of the plaintiff's attorney to translate the employer's negligence into a defect existing in the manufacturer's machine.

For instance, where in the absence of a workmen's compensation act the employee would have *sued the employer* for negligence in taking off a machine guard, the plaintiff's attorney now, with the employer immunized from suit, *ignores the employer and attacks the manufacturer* for the "defect" of having made it possible for his machine to run without the guard. See the later discussion of this. The rationale is not logic or justice, but dollars.

To repeat; without having been assured of immunity from suit, the employer never would have agreed to grant no-fault compensation to the employee. But the employer could never receive immunity without depriving the manufacturer of his right to sue the employer. Hence, *to give the employee no-fault compensation*, the manufacturer was deprived of his right.

In all equity and justice, workmen's compensation has to be a legislatively constructed bargain struck among *three* parties—employee, employer, and manufacturer. However, to allow the manufacturer to recover his right to sue the employer *now* is to deprive the employer of the benefit he bargained for, while allowing the employee to keep the benefit he bargained for.

Certainly, the only equitable way of preserving the compensation system is to grant the manufacturer not his original "lost" right but an equivalent right; namely, the same kind of immunity that the employer enjoys – immunity from suit by the employee.

That workmen's compensation acts have been basically successful, even though subjected to abuses, is unquestioned in this age. They will either be amended to correct the present unfairness by immunizing the manufacturer like the employer or be subjected to economically forced attacks by the manufacturer on the employer's immunity. These attacks, if successful, will finally deprive the employer of *his* benefits under the act, and eventually leave as a sole beneficiary the employee. Eventually, such a one-sided arrangement, having lost its support, will topple.

Reasons given for the doctrine of strict liability

Two statements can be found echoing down the long line of strict liability cases. That in industrial cases they are as false as they are frequent has never been adequately emphasized.

The first statement is that with regard to the injured party, the manufacturer has made a profit from the sale of the product, and as the enterpriser should therefore bear the costs of the risk of injury. It can easily be recognized that in the industrial scene there is not one but *two* enterprisers – the manufacturer and the employer. Although the manufacturer makes a profit on the initial sale of the machine, this is a single, one-time profit. The employer makes a profit from the operation of the machine over its entire lifetime. If a choice for bearing the risk were to be made between these two enterprisers *on the basis of profit alone*, the employer is certainly the obvious choice.

The second statement is that the manufacturer is in the best position to include the cost of compensating injury in the prices of his products, and therefore the best one to distribute the risk to society. One must realize that the choice here is really *what* costs should be distributed to society. That is, shall the distributed cost to society be the cost of adequate workmen's compensation or the cost of unlimited judgments resulting from litigation?

In the employer's case, it is the costs under workmen's compensation in which the amounts are predetermined for injuries, only after studies, hearings, debates, and due deliberation by a legislative body. In the manufacturer's case, it is the costs that result from series of jury decisions – juries that have been subjected to skillful barrages of emotional appeals and have no thought of the cumulative ultimate impact of their decisions on society.

While we speak of one-third to one-half with regard to *the award* itself, it is instructive to compare the attorney's fee to the plaintiff's *net recovery*. One-third now becomes *fifty percent* and one-half becomes a *hundred percent!* This is, the attorney receives *fifty to one hundred percent* of what the injured party receives.

That the value of a lawyer's services should be measured by the extent of his client's injuries is understood clearly only by the plaintiff lawyer's bar.

Examine the actual facts of the situation. If there ever really was any thought that the manufacturer could distribute the costs of the present magnitude of suits and awards, that thought is certainly discredited now. Witness the present crisis in insurance premiums, and in fact the utter inability of the smaller manufacturer to obtain insurance at all, while the larger manufacturer merely postpones the ultimate disaster by self-insuring.

Negligence versus strict liability and breach of warranty

The proposed solution provides that if the employer sues the manufacturer to recover compensation, the action shall be solely in negligence (2(a) and 2(b)). This is an important condition.

As presently interpreted, strict liability is not suited to the purpose of an action to recover compensation; and breach of warranty, a monster shaped by the courts out of a reluctant sales contract, has long since outworn its dubious usefulness. Negligence remains as the logical choice for the action.

Yet if we cannot establish negligence as the *sole* basis for an action of recovery of compensation (2(a) and 2(b)), then it will be necessary to take a harder look at the doctrine of strict liability.

The reason is that in such an action, inevitably there will be some responsibility on the part of both employer and manufacturer – and perhaps as well on the part of the injured employee. Strict liability is not inherently constituted to permit allocation of fault. There must be some way to accommodate the doctrine to the situation.

Courts have consistently refused to apply the doctrine of contributory negligence under the strict liability doctrine, deeming it irrelevant because strict liability will lie even where the manufacturer ". . . has exercised all possible care in the preparation and sale of his product . . ."

Yet the injustice of finding a defect responsible when the injured party has been grossly careless and negligent has troubled the courts who are now slowly turning to "comparative negligence" as an adjustment. *After* liability has been found, some courts are saying, "let us look at the comparative negligence of the

parties to see if the defendant should pay the full award or only some part of it dependent upon his share (of fault)."

While the logic of insisting that an action has nothing to do with negligence and then evaluating the *amount* of negligence on each side might trouble a layman, it does not trouble the sophistication of the courts, which were producing legal fictions long before science fiction came into vogue.

The judicial process in fact seems at times like a skilled magician who is actually doing one thing while appearing to be another, and simultaneously telling his audience a pleasant story about the whole matter.

A more forthright approach might be to forsake the doctrine of comparative negligence and adopt an extension of some of the basic terms of strict liability. It can be recognized that a "defect" may in fact be a *composite defect*, composed of defects contributed by various parties. The term "defect" already has an elastic meaning, having very little relation to a word of the same spelling found in Webster's dictionary.

It would be quite simple to agree that actions of the employer or of the employee might be of such nature as to constitute a defect, or a contribution to a *composite defect*. Where such a contribution by several parties to a *composite defect* existed, it would then be equally simple—and quite logical—to adopt a theory of contributory or *comparative defect*. Thus the results of applying comparative negligence could be reached without ever tripping over the illogic of that concept in strict liability.

Perhaps then the concepts of *composite defect* and *comparative defect* might be successful in making strict liability slightly more applicable to an "action of recovery of compensation."

The Government view of consumer and industrial products

It is highly significant that the United States Government in its program for improved safety takes two *different approaches* to the subject.

In the case of consumer products, the Government focuses on the *manufacturer* of such products under the Consumer Product Safety Act.

In the case of industrial products, the Government focuses not on the manufacturer, but on the *employer*. Under the Occupational Safety and Health Act (OSHA), the Government regulates in the workplace. The obvious criterion is *control of the product*.

It is also frustrating that the courts take no notice at all of any difference between consumer products and industrial products, applying with fine impartiality the same reasoning to the electric toaster as to the giant transfer line.

The critical role of the employer in machine accidents

One purpose of this paper is to emphasize that the employer is an active party in the safe operation of a machine, and the theories of liability that do not recognize his role as an enterpriser along with the manufacturer warp justice. The manufacturer who has once released his machine into the employer's control is thereafter at the employer's mercy with regard to liability, perhaps beginning with a faulty installation in which the machine is neither level nor secure.

Consider a machine with a number of guards. Poor supervision on the part of the employer will result in their removal. Hinges or chains will not defeat negligence, for the hinges can be removed and the chains can be cut and discarded. *Only the employer can control this.*

Interlock switches are not the answer and are often contraindicated. They may by their very presence invite reliance on their "released" mode, and suggest to an inexperienced man that it is safe to reach into the machine, when in fact they might be shorted or malfunctioning because of poor maintenance or neglect by the employer. They are easily defeated by tying them down or jumping their connections in the control cabinet. Or they may be disabled by accident, as for instance with a crushed conduit shorting the two leads electrically. *Only the employer can control this.*

If such interlock switches are used, they can create more of a problem than an effective simple visual inspection program. For instance, they require frequent checking. But they can be checked only by partially removing each guard. On a machine with many guards, this could be intolerable and lead to neglect of the testing. Again, the employer's control makes the difference.

The real answer to keeping guards on a machine is a strict policy by the employer of enforcing safety rules. At its best the interlock switch requires frequent checking and inspection. Is the employer who negligently allows guards to be left off machines apt to exert due care in checking and testing interlock switches?

Warning and caution signs are commonly applied to machines, but an effective program of safety training resulting in the awareness of industrial hazards is preferable and far more effective. *Only the employer can provide such a program.* Signs that are allowed to be covered by dirt and grease, or are damaged, removed or painted over fail to warn. *Only the employer can prevent such deterioration.*

The courts have said that a warning is not adequate unless it also sets out the consequences of its violation. Such lengthy negative injunctions are only possible

in some measure by inclusion in a manual of operation and maintenance. *Unless the employer* makes the manuals available to the machine personnel, requires their reading or instructs from the manual, and periodically reviews them with machine personnel, the warnings will not be effective.

Particularly damaging is the employer who permits the machines to run without proper maintenance, without repair of worn parts, and with only enough servicing to keep them running. Worn parts may produce unsafe conditions, but *only the employer can control this.*

The manufacturer of a complex industrial machine must be able to rely on the employer providing competent tradesmen in the mechanical, electrical, and fluid power fields. He must be able to assume that they know the safety procedures peculiar to their own trades, for there is no way he can include all of these in the machine's special instructions. Yet *if the employer is careless* in assigning personnel or negligent in not having competent personnel to assign, their own lack of competency may be visited upon the manufacturer in a suit based on an analogy to a consumer product.

Worst of all is the employer who permits his employees to reach into, climb upon or into a machine that has not been properly shut down, or whose power is still on, or even one that is in automatic mode. This is a particularly fertile cause of injury, and one which *only the employer can control.*

Another fertile source of injuries is sponsored by the employer who buys that thirty-year old machine resurrected from the junkyard; "modernized" by a gasoline bath and a coat of paint; altered, modified, and minus guards. This "bargain" for the employer is a nightmare of liability for the manufacturer.

Summary

The industrial accident differs radically from the consumer accident. The difference is recognized by the U.S. Government in its two separate safety agencies, one directed to the manufacturer, the other to the employer. The facts of the industrial accident are fundamentally affected by workmen's compensation; the facts of the consumer accident are in no way so affected. In the industrial accident, both the machine and the operators are under the control of a third party whose actions and conduct have a profound effect on prevention of accidents. The manufacturer has already given up a right in workmen's compensation without ever receiving a corresponding benefit; to the contrary, its existence has encouraged an increase of predatory litigation against him.

The only long range equitable solution to the present dilemma is the inclusion of the manufacturer under workmen's compensation.

Senator JEPSEN. Thank you, Mr. Walk. Have you had any personal experience with imported castings?

Mr. WALK. Yes, I have, Senator. Allis-Chalmers was putting together three diesel engines for some container vessels. These were made primarily of foreign parts and curiosity led me to make a trip to Milwaukee. They invited me and gave me quite a story about how these parts cannot be produced in the United States. Obviously they didn't know my background.

They did give me a machine drawing on the cylinder jacket. This cylinder jacket weighs about 15 tons and stands about 10 feet high. This engine has 12 cylinder jackets so you can appreciate the magnitude of this engine. It stands about 42 feet in the air.

With this machine drawing I was successful in obtaining a bid and I submitted this bid to Sulzer Bros. in New York. I was told it was very competitive and nothing ever happened. As hard as I tried, I kept getting the runaround. I made a trip to New York City to find out what the status was and by the time they met me, important time had lapsed.

At the time I initiated this activity I could have obtained castings for them that should have been legally manufactured in the United States because the Merchant Marine Act of 1930 says U.S. components shall be used. Even in 1936 when the law became more realistic, it says if you can't manufacture the component in the United States you can purchase it overseas. The Marine Board Docket A118 repeatedly, page after page, says, U.S. sources must be used if they are available. This docket related to the introduction of the low speed diesel. Apparently MarAd and Sulzer Bros. totally ignored these provisions. That's the only way I can interpert it.

There are three foundries in the United States that could have produced these cylinder jacket castings and Teledyne's casting plant was the closest to Allis-Chalmers in Milwaukee. It would have been easy to shim the castings there.

Senator JEPSEN. Could you specifically detail for the record the manner in which foreign competition is subsidized?

Mr. WALK. I think you have quite a bit of documentation in the material I have submitted, but I can obtain some more and I am sure that the Cast Metals Federation has material which can be sent to you.

Senator JEPSEN. In the 1950's, the authority under title 3 of the Defense Production Act of 1950 was used to assist the mining industry through the use of private level guarantees. Many sectors of the industry flourished on this program. However, after they took them away, they fell flat in terms of not staying in business. Are we faced with a similar situation with the foundry industry?

Mr. WALK. In some cases, yes. We have a unique situation in the foundry industry, Senator, because the foundry industry covers just about everything manufactured. There isn't a thing in this room that doesn't relate to a cast product, from the carpets on the floor to the paint on the walls. The economic cities—Chicago, New York, Cleveland—all at one time or another had been foundry centers. As recently as 1967, the city of Chicago had more foundries than any other city in the United States. It had 135. These aren't necessarily the type of foundries that make stern frame castings for ships or these big huge castings, but they are the backbone of the manufacturing process.

Senator JEPSEN. With proper regulatory reform and proper attitudes from the Government and the agencies, do you think these industries would remain economically viable or do you think we must subsidize them as a means of preserving the domestic capacity?

Mr. WALK. I don't think a subsidy really enters into the picture unless they're dealing with a foreign power. Domestically, I think all we have to do is lower the interest rates and the economy will takeoff like a squalling cat. Certainly 20 percent or 21 percent is outrageous cost.

Senator JEPSEN. How low?

Mr. WALK. I would like to see the interest rates go down to what it used to be several years ago, down to 6 percent or below.

Senator JEPSEN. I'd like that too.

Mr. WALK. It's probably wishful thinking.

Senator JEPSEN. The automobile industry has been selling a few cars lately. If the interest rate dropped a few points——

Mr. WALK. They've got to sell a lot of these half-American and half-Japanese cars—the K car and the rest of them. They are not all American made. My Monarch has several parts made in Canada. I kind of resent the fact that the auto manufacturers are promoting them as "American made" while they really are not.

Senator JEPSEN. Do you think a 14 or 13 percent interest range would get things moving?

Mr. WALK. It certainly would. I think people could live with that.

Senator JEPSEN. Mr. Moran, one quick question, on PEP, production equipment packages, maintained by the Department of Defense, I understand most of these tools are obsolete and some of them are not even operable. Do you know anything about that?

Mr. DOWNER. Yes, sir, if I could respond to that, Mr. Chairman. The equipment that's in these preparedness packages are even older than the others that Mr. Moran described. The average age is about 25 years old. But the unfortunate part of it is, in many cases, these preparedness packages have been set aside to produce a particular part for a weapons system or for a system that has not been active for, in many cases, up to 20 years. Even if it was good equipment when it was put in there and it has been protected to some degree, the inactive status of that long a period of time, in many cases, it would deteriorate to the point where it's very questionable if the equipment could respond in an emergency. Also, these preparedness packages were designed to have a complete package that could immediately respond and go into production for that particular item. In many instances these packages have been cannibalized over the years for other projects, and therefore, again would not be able to respond.

Senator JEPSEN. Is there anything that any of you would like to add for the record at this time?

Mr. DOWNER. Mr. Chairman, if I could, since I was just speaking, I have been in the background in the Defense Department and I have been through several emergencies and the average attitude of the American people has been that we have entered each emergency unprepared. We have always been able to mobilize and to win the the war and that has happened from the Revolutionary War on up through World War II. In today's environment a lot of people do

not realize we have an entirely different situation. If we do not take some action now to solve some of the problems that the panel members have laid out here today, the lead time it takes to take those actions when an emergency comes, if somebody drops a bomb on us or what have you, that's going to be too late to do anything. I think this is the message that the American people must realize if we're truly to be prepared, and hopefully, never to fight another war. Unless we can demonstrate to our allies and friends that we have the capability to sustain ourselves for a conventional conflict, I think our chances of getting into a conflict are very greatly enhanced.

Senator JEPSEN. I concur. We should maintain the level of defense that we need to keep the peace and prevent war. Prevent war with strength.

Mr. FOGARTY. Mr. Chairman, I think the key to that involves the development of the teamwork between government and industry. It seems to be general concurrence on that point. As to how to specifically do it or achieve that, we touched on it earlier and I might offer an example of a personal experience.

For a number of years I was a manager of a steel company in Canada and the Canadian steel industry formed what was referred to as a steel/industry advisory group. They were one person from each steel company that gathered as a group and met periodically with the steel industry sector of the industry, trace, and commerce—the Department of Commerce's counterpart in the United States. Thereby, good rapport was developed between industry and the Canadian Government to the extent that together they established a written program which might be perceived as constituting a national policy; certainly a marketing strategy for the Canadian steel industry itself.

I think that's the type of meaningful communication that is necessary. The point I made earlier—you have to segmentize such communications between the proper segment of industry and the proper of government if that in fact is going to be meaningful. Thank you.

Mr. WESTWOOD-BOOTH. Mr. Chairman, there are a couple points I would like to make regarding how business is done between industry and DOD. I'm a firm believer that if DOD wants more cooperation out of industry, other than maybe the prime contractors because I think that's a closed body unto themselves, that any time that industry spends developing data or costs for a program being planned by any of the armed services and not used, that industry or that company should be reimbursed for that time.

I think it's totally unfair of DOD to promise jobs out of one side of their mouth and then turning around and doing something entirely different and leaving the people that have spent a lot of time and money exposed financially. That's my first point.

The second point I would like to mention for the record is a recent horror story about what Mr. Walk just alluded to regarding the engine program. This was part of the development of the diesel engine program to entice Salzar to come to this company. MarAd had to agree with Salzer they could import most of their components even though this was infringing on the law under which they acted.

The second thing which was even more insidious as far as I'm concerned, is that Allis-Chalmers was convinced and asked to get into the

program, which they did, and spent substantial money setting up for assembly and production, and as soon as the first two engines were built and the third one ready for delivery, the whole program was put into abeyance by the Reagan administration which wiped out Allis-Chalmer's total investment.

Their only hope is that maybe the Navy will pick up some of the slack downstream and they are now doing it under a license agreement with somebody in Denmark. So I don't think there was a necessity in the beginning for MarAd to be so cozy with one manufacturer to make it exclusive for them being allowed to bring in components when those components could be made here or another European manufacturer said they could get them here if their engine is built here. I think this is a key issue that should be addressed by Congress to MarAd because I think some of their thinking is getting very fuzzy.

Senator JEPSEN. To the best of your knowledge, have you or your associates or any of your associations had direct contact with the new Secretary of Defense? Has there been a meeting?

Mr. WESTWOOD-BOOTH. I have recently, as of August 5, met with the Assistant Under Secretary. It was a very upbeat meeting, Senator.

Senator JEPSEN. Was that at his invitation or yours?

Mr. WESTWOOD-BOOTH. It was at the request of Senator Thurmond that we had the meeting and it was to establish the implementation of some past agreements which Midvale has been holding due to essentialities not having been declared, and then subsequently being declared and having the agreements now implemented after a year and a half.

Senator JEPSEN. In your experience, or anybody's experience on the panel, in doing business with DOD, do you find that there is duplication of procedures or mechanics from other areas of Government that also get involved when you do business with DOD or can you do business strictly——

Mr. WESTWOOD-BOOTH. I feel there's a lot of duplicity between some of the administration and DOD from past administrations that are currently there that either were reflecting previous policy or were just downright incompetent on their part on the current status. I'm not sure which it is, Senator. I'd like to give them the benefit of a doubt that they are just changing from the previous policy to the new policy, but it doesn't appear that way and it becomes totally frustrating and very costly and they don't recognize the two and they are not using the 1950 procurement law as amended in its true sense. They look at the procurement in one direction. That's how they interpret it, when in reality it could be interpreted from right to left or left to right. There's just a very slightful attitude and unless they change their thinking and use a new approach, I think they're going to head for some very hot water. A lot of industry is just fed up with trying to do business with defense. A lot of them don't want to take on the risk and the liability of trying to do business with defense and I think it's up to defense to take a stand and do something a little more constructive than just giving a lot of adipose to industry when they go up there to talk about a serious problem and one doesn't like to have the hand shaken and sit at the table with a lot of smiles and we're all with you, boys, and we want to get the show on the road, and then you hear nothing for 3 months. This is not good business. It's not good policy.

Mr. FOGARTY. To respond to your question, the shipbuilders have had meetings with Secretary Lehman and with George Sawyer and also with Secretary Weinberger and basically part of the shipbuilders' problem in dealing with the DOD and the Department of the Navy is that even the Navy doesn't know what its 5-year plan is at the moment and it's pretty hard to go ahead with ordering ships if you don't know how much money you have in the bank. I think Congress bears a little bit of the brunt of that.

Mr. RYAN. Let me just speak up. It's easier than trading the microphone back and forth here. I found this very interesting, Senator, and there were a lot of different concerns expressed at the table this morning. It all melds I think into quite a problem, but it seems to me that perhaps in some ways, after listening to these gentlemen, in particular who represent larger companies, I question in some ways who's supposed to be selling and who's supposed to be buying.

Now evidently, some of the major industries come in here frequently and get hold of governmental people and they have very little success at it. Perhaps it's high time that the DOD and others came back and tried to sell these gentleman. I frankly, in my own opinion, don't feel, even though an advisory commission perhaps would be helpful from an informational standpoint—maybe it's time to put the shoe on the other foot and be sure DOD is as concerned as we are and that thread runs through practically all of us this morning. Thank you.

Senator JEPSEN. That's a very good point and I think, without being judgmental or interpreted as being critical of what's happened in the past, that's why we're here.

Mr. WALK. Senator, I'd like to make one more comment. I have a copy of a magazine here that has a cover illustration of the Ford Flatrock plant that's closing. That plant is less than 8 years old. This is a 1972 issue of Modern Casting.

The plant was under construction then. This is probably one of the most modern plants at this time. The same would be true of Huber Avenue Foundry that Chrysler had closed. It was the first major plant built in the city of Detroit in 20 years and the city really leaned over backward with provisions and arrangements to obtain that plant. They too closed it rather rapidly.

The same engineering firm that designed the Ford Flatrock plant designed this one in the U.S.S.R. This issue tells all about it, and these are the trucks that were built in the plant. They were seen on a network TV invading Afghanistan. The design criteria of these trucks are such that they could be very easily converted into tank production. The speed of the truck is about 52 miles per hour, which means it's for heavy terrain. So it's not really a commercial vehicle.

Senator JEPSEN. Well, thank you, gentlemen. This has been a little longer than ordinary but very, very interesting. I would appreciate anything that you would have for the record that you would like to have added. You may do so in writing up to 5 o'clock this afternoon if there's something that's an afterthought you would like to have in. We will hold the record open. Any suggestions or recommendations you may have at any point in time in this whole area, I would appreciate. I know my colleagues would and I know your Senators and Congressmen from your respective States would like to have them.

At this period of time we're in here discussing the economic recovery of the Nation, and that's just exactly what it is. It isn't President Reagan's economic recovery program. It isn't a Republican program and it isn't a Democrat program. It's an economic procedure and program for the well-being of this country. I think it's a very serious sort of thing and we're all finding that going through it isn't very easy. So we need all the help and all the counsel we can get. Thank you very much.

The subcommittee stands adjourned.

[Whereupon, at 1:25 p.m., the subcommittee adjourned, subject to the call of the Chair.]

[The following information was subsequently supplied for the record:]

RESPONSE OF JACK E. MORAN TO ADDITIONAL WRITTEN QUESTIONS POSED BY REPRESENTATIVE BROWN

Question 1. How severely has inflation distorted your projections of real after-tax profits? To what extent has this retarded capital formation in your industry?

Answer. The degree to which inflation impedes capital formation is primarily a function of the operating and financial characteristics of each individual business. Rather than give a specific answer for the machine tool industry or my firm, I will simply present the generalized case.

Two of the more critical factors determining inflation's impact upon a firm's real profits are the firm's accounting procedures and the age of the equipment used in its operations. Accounting practices are vital because if a firm employs other than last-in-first-out (LIFO) accounting it is cheating itself of revenues by creating false profits on the bottom line of its income statement while ignoring the need to fully consider the cost of purchasing new materials and components for future operations. That is, if a firm employs LIFO accounting, its inventory valuation will represent what the firms paid for the most recently acquired unit of input to its productive process and reflects a near-approximation of what it can expect to pay for the next. Without LIFO valuation, the firm records as an expense only what it paid for the item being used; disregarding the impact of inflation on the cost of replacing that particular commodity.

Because inventory expense is a component of the total cost of goods sold item on the firm's income statement, a lower inventory expense produces higher profits but only at the expense of the firms's working capital. By bolstering profits in this way, funds that would otherwise be retained for future operations appear as profits; subject to taxation and distribution to stockholders. What results is therefore a de-facto decapitalization of the firm as it distributes its working capital to the government and its shareholders. In a non-inflationary environment, this would not occur because inventory valuation would be accurate regardless of the time of purchase.

The second effect of inflation on profits is the under-depreciation of the capital assets of the firm, i.e. a depreciation charge that does not recover the cost of replacing the capital being consumed in operations. This phenomenon has the same impact on the firm's income as the under-valuation of inventory. Because depreciation charges, an expense on the income statement, are based on the historical cost of capital to the firm, in a time of rapid inflation in capital equipment prices the depreciation charge allowed the firm does not cover the actual cost of replacing the machinery being "used up". This under-depreciation implies a lower than true "cost of shipments" figure on the firm's income statement, thereby again producing illusory bottom line profits that are actually a manifestation of the firm's being de-capitalized.

How do these phenomena affect the machine tool industry and how has it served to retard capital formation? The only way to answer this is to say that the machine tool industry has been affected. First, it has to maintain a relatively high value of inventories simply because it takes six to nine months to build a machine. Both time and high inventory values therefore act against the builder in an inflationary environment. It the builder does not use LIFO valuation he may well be dramatically raising his level of inventory profits while actually allowing his working capital reserve to be eroded.

The problem of under-depreciation is also a very real problem to the machine tool industry because of the capital intensive nature of the industry. Quite simply, it takes a lot of other machine tools and metalworking equipment to perform the various operations required to build a machine tool. These assets are all relatively long-lived, implying that as inflation pushes up the cost of new machinery the gap between the historical cost based depreciation charge and the true cost of replacing the machine in use grows ever wider. This widening is reflected in the firm's profits which are unfortunately, much higher than they would be if the firm were depreciating its equipment at replacement-cost value.

For every year that a firm puts off buying new equipment, the gap between its depreciation reserve on the machine in use and the cost of replacing the machine with a new one grows. This implies that the firm is continually liquidating its productive base. The profits produced from a failure to capture the true costs of production in its standard financial statements are not real—inflation adjusted—profits, they are actually little more than a bookkeeping entry that results from the failure of the structure of accounting practices to accommodate the realities of an inflationary environment.

Question 2. Over the last 15 years the amount of earning coverage of net interest payments of non-financial corporation has fallen steadily. About what percentage of your company's earnings goes toward interest payments?

Answer. The trend of ever higher interest payments throughout industry has also been evident in the machine tool industry. According to data compiled by the National Machine Tool Builders' Association the percentage of net sales going toward interest payments was 1 percent in 1978, rose to 1.2 percent in 1979 and last year rose again to 1.5 percent. This represents not only the rise of interest rates, but also the fact that many firms are increasing their use of borrowing to fund both additions to working capital and their long-term capital expansion programs.

Question 3. The new capital cost recovery system should help increase capital increase capital formation and productivity growth. Could you explain how this system will affect your company? Can you suggest any improvements in the system? Can you suggest any other measure that might be useful?

Answer. The new capital cost recovery system is undoubtedly a boon to business in that it allows firms rapid recovery of the cost of capital acquisitions, thereby increasing cash flow and the firm's ability to internally generate capital funds. Interestingly, while the new system strengthens firms in terms of their capitalization and productive base, it has the potential to make firms appear financially weaker. The increased depreciation expense allowed by the new system raises total operating expenses while not necessarily reducing costs or leading to higher sales levels. Therefore, higher expenses with no net change in revenue could lead to a firm with decreased profitability.

Of course, it is also possible that the new capital equipment acquired by the firm will engender substantial productivity gains and cost savings. This would at least partially offset the higher depreciation expense produced by the new system. It is also possible to hypothesize that a firm, with its newly acquired capital equipment, will have increased capacity and a greater volume of sales and cost savings high enough to more than offset the higher depreciation charge allowed. If this is the case, the firm, even with the new capital-cost recovery systems, will have a higher volume of profits than before the purchase of the new equipment and thereby appear to be financially better off despite increased depreciation expenses.

The question of profitability, while essential to each individual firm, is actually of secondary importance when considering the macro-economic effects of the new capital cost recovery system. The most important effect of the new system from the viewpoint of the well-being of the entire nation is that it establishes the financial framework that enables American industry to purchase new stocks of capital equipment; equipment that will enhance America's productivity, help reduce inflationary pressures stemming from rising costs, and enable American firms to successfully meet the rising competitive challenge posed by imports. Ultimately, this revitalization of industry will create new jobs for Americans, thereby taking people off the unemployment or welfare rolls and making them productive members of society. Interestingly, more people at work means lower tranfer payments from government and more tax revenues for government, an outcome which will favorably affect our government's fiscal balance. While I am not in a position to attempt to quantify these trends or potential changes, I think there is no doubt that the new capital cost recovery

system will prove to be a great stimulus to the overall growth of the nation's economy and the revitalization of America's industrial base.

In response to your solicitation of suggestions for modifying the new system I can only say that I feel that proposals for change are somewhat premature. There are of course, a litany of tax measures that business would like to see. However, I feel that at this time the prudent thing to do is let the present system take hold. By monitoring business investment response to the current system it will be possible to see where changes or modifications are needed to achieve specific goals. By waiting, it will be possible to judge how well the system works and to identify areas where results are falling short of expectations. I feel the new system should be given a fair chance in its present form. Tinkering with the law now could well prove counterproductive and would also have a negative psychological impact on the business community which attaches a very high value on stability in the tax system. Changing the new system would tend to undermine the confidence of business by substituting another untried system for the present relatively untried one. In the lexicon of the New England Yankee, as it applies to this situation, my advice is, "If it ain't broke, don't fix it."

Question 4. There seems to be considerable evidence that a shortage of skilled labor in your industry is becoming acute. What can be done to more rapidly train workers in this critical sector?

Answer. Short range rapid solutions are expensive and often self-defeating in the long run. The real shortage is with highly skilled journeyman and their development takes time Previous attempts to simplify jobs and hire and train operators for those semi-skilled jobs have contributed to the shortage of skilled manpower. Intensive, on-the-job training in single operations is the most rapid way to increase production to meet short term goals.

The chronic skills shortage can only be met by attracting motivated individuals who want to learn and who have the basic academic and pre-vocational skills best taught through the public school system.

Once selected, employees can be trained by employers in vestibule programs, on-the-job training for specific skills and through job rotation and traditional apprenticeship training.

All employers must be encouraged to provide training to avoid the "stealing" of workers trained by others.

If the objective of a federally assisted program is to meet the skilled shortage it should not be fragmented by broad social or other goals no matter how worthy.

Skilled craftsmen can be effectively produced by:

1. Encouraging close cooperation between community, schools and employers.
2. Enhancing jobs and career ladders and making these opportunities known.
3. Recruiting and selecting the best potential employees.
4. Encouraging all employers to provide continuing on-the-job training, including apprenticeship, job entry and training to upgrade the skills of those presently employed but not working to their full potential.

Question 5. To what extent is the United States becoming over-dependent on foreign sources for critical raw materials?

Answer. The United States is becoming increasingly dependent upon foreign sources for its supply of many strategic and critical materials. While this dangerous and costly dependence by the United States upon foreign sources of supply affects the lifestyle of every American citizen, it is a greater potential danger to our national security. In 1950 only 4 of the 13 basic industrial raw materials were imported in quantities of 50 percent or more. Today we have reached that level of import for 9 of the same 13 materials.

But as serious as the problem is to us, it is far more serious to our industrialized allies and friends around the world. For example, the nations of the European Economic Community have total import dependence on ten strategic minerals and metals—including critically important manganese, cadmium, cobalt and chromium. Japan imports 100 per cent of 11 strategic materials.

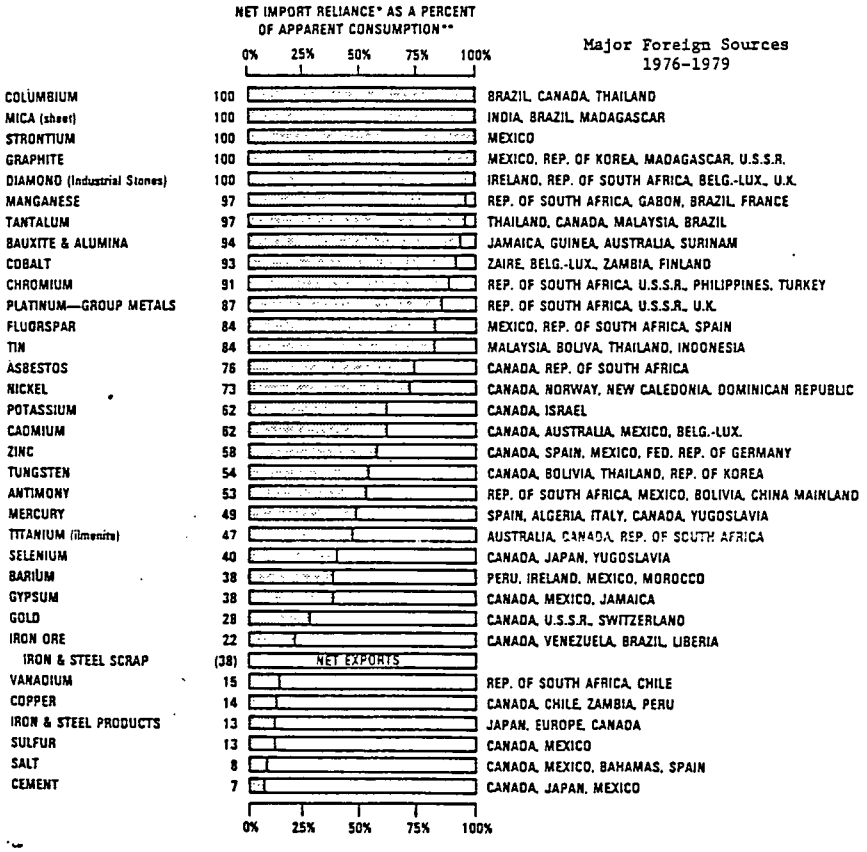
No issue facing America in the decades ahead poses the risks and dangers to the national economy and defense presented by this nation's dependence on foreign sources for strategic and critical materials. Minerals such as manganese—essential in the production of steel (import dependence 97 percent); cobalt—vital hardener and strengthener of steels (import dependence 93 per cent) and chromium—indespensable to the production of stainless steels (import dependence 91 per cent) reveal a vulnerability more serious than the energy crisis. While America may develop its own alternative energy resources, in may cases there are on substitutes for minerals imported from foreign sources.

To assure the supply of the military, industrial and essential civilian needs of the U.S. for national defense, the U.S. maintains the strategic and critical materials stockpile. However, the current inventory averages only 48 percent of the established goals needed to insure national security and a large portion of this inventory is obsolete to current needs.

Title III of the Defense Production Act of 1950, as amended, provides broad authority for expanding supplies of materials, making specific provisions for exploration, development, and mining of strategic and critical materials. In 1980, $3 billion was made available to the Department of Energy for purchase or production of alternative fuels or to finance the construction of alternate fuels production facilities, but no funding for strategic materials or minerals is presently available.

A comparison of United States and the U.S.S.R. net import reliance of selected minerals and metals as a percent of consumption is detailed on the attached charts.

Figure 4-1. U.S. NET IMPORT RELIANCE OF SELECTED MINERALS AND METALS AS A PERCENT OF CONSUMPTION IN 1980

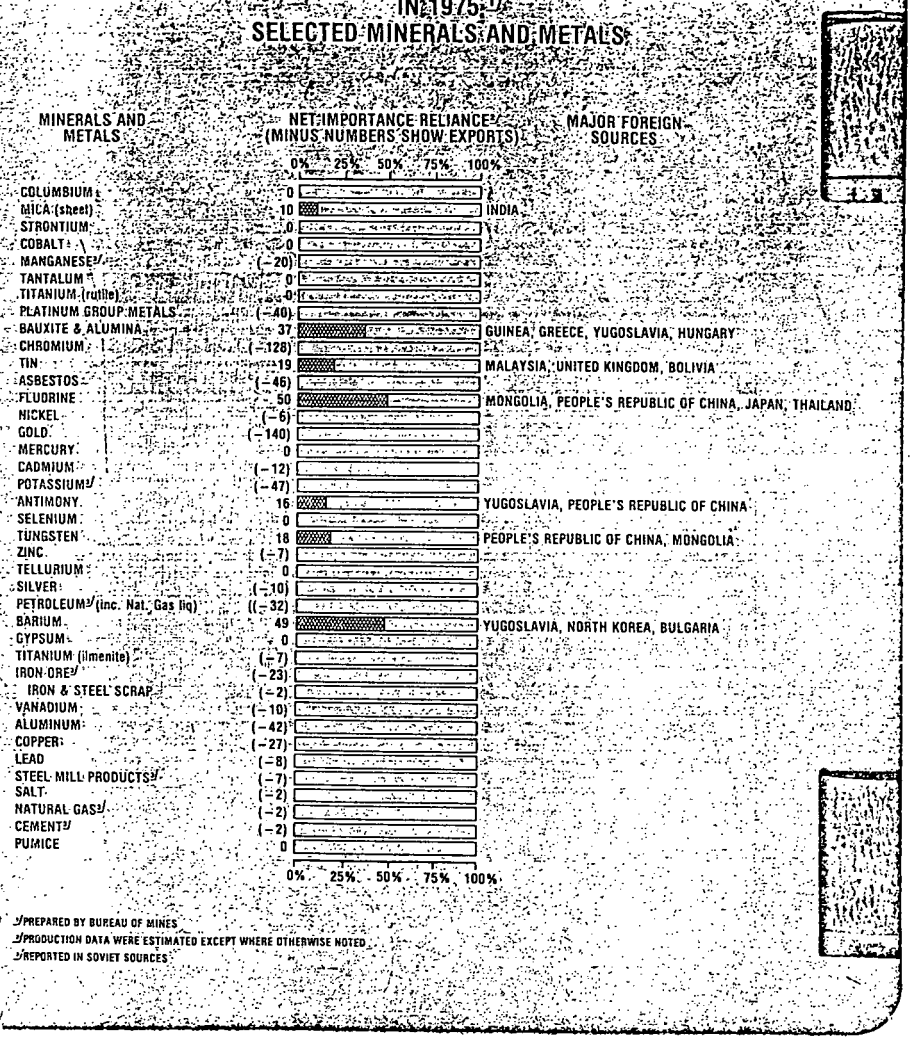


*NET IMPORT RELIANCE = IMPORTS-EXPORTS ±ADJUSTMENTS FOR GOV'T AND INDUSTRY STOCK CHANGES.

**APPARENT CONSUMPTION = U.S. PRIMARY SECONDARY PROD

SUBSTANTIAL QUANTITIES ARE IMPORTED FOR RUTILE, RHENIUM AND ZIRCON. DATA WITHHELD TO AVOID DISCLOSING COMPANY PROPRIETARY DATA.

U.S.S.R. NET IMPORT RELIANCE AS PERCENT OF CONSUMPTION IN 1975 [1/] SELECTED MINERALS AND METALS



[1/] PREPARED BY BUREAU OF MINES

[2/] PRODUCTION DATA WERE ESTIMATED EXCEPT WHERE OTHERWISE NOTED

[3/] REPORTED IN SOVIET SOURCES

RESPONSE OF JOHN E. FOGARTY TO ADDITIONAL WRITTEN QUESTIONS POSED BY REPRESENTATIVE BROWN

Question 1. How severely has inflation distorted your projections of real after-tax profits? To what extent has this retarded capital formation in your industry?

Answer. Excessive inflation has naturally been of concern to us in recent years. We have incurred energy costs of 15 percent to 30 percent per year. Labor costs have been increasing at an annual rate of 10 percent or more, as have our material and supply costs.

It has been very difficult, in fact, impossible, for us to pass along cost increases of this magnitude. If this situation continues, our expenditures for capital formation will be affected.

Our company values its inventories on a conservatve basis under the last-in, first-out method of costing (LIFO). Therefcre, we are not creating inflationary profits due to inventory write-up. However, this in the situation in many companies valuing inventory at first-in, first-out (FIFO) or some other method other than LIFO.

Question 2. Over the last 15 years the amount of earnings coverage of net interest payments of nonfinancial corporations has fallen steadily. About what percentage of your industry's or company's earnings goes towards interest payments?

Answer. In 1980, our interest costs were 21.2 percent of our net profit. The average for the last five years is 9.9 percent of net profit.

Question 3. The new capital cost recovery system should help increase capital formation and productivity growth. Could you explain how this system will affect your company? Can you suggest any improvements in the system? Can you suggest any other measures that might be useful?

Answer. Our company is capital intensive. And will benefit from the accelerated cost recovery system (ACRS).

Generally, the more rapid depreciation will favorably affect our cash flow through a deferment of federal taxes. These deferred tax dollars will be used for additional capital espenditures which will be directed toward modernization and improvements to our facilities. The results of these modernizations will improve our efficiency and productivity.

A further improvement would be an additional increased acceleration of depreciation write-off to become more competitive with foreign countries such as Canada that has a two year depreciation basis.

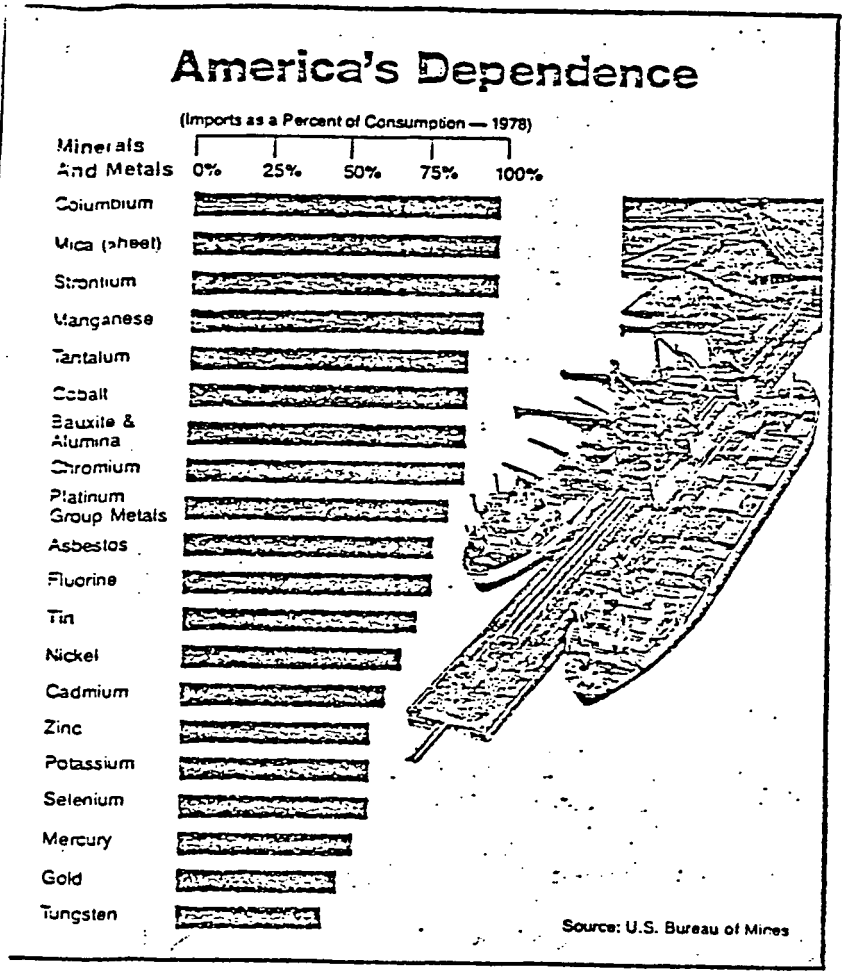
Question 4. There seems to be considerable evidence that a shortage of skilled labor in your industry is becoming acute. What can be done to more rapidly train workers in this critical sector?

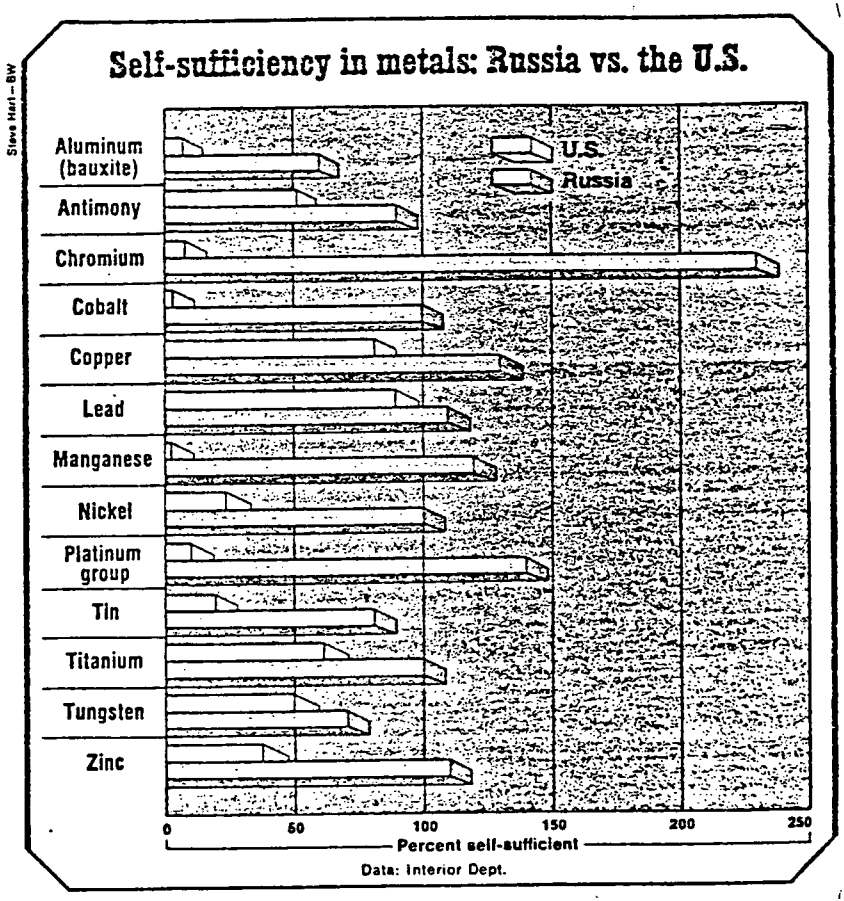
Answer. Government sanctioned apprentice training programs are often unrealistically burdensome to employers. Total training times required for journeyman status are too long. In addition, the plethora of forms and records associated with such programs and the personnel required to administer them make economic justification difficult. Similarly, government sponsored programs aimed at upgrading skills are often not available to employees already in the workplace. Therefore, employers must bear the entire economic burden of improving work force skills associated with technological advancements. Meanwhile, seniority rules prevent unemployed persons eligible for government sanctioned retraining programs from entering the established work force unless business volume increases permit. Government measures that tend to increase the normal retirement age further exacerbate the situation since turnover rates are thereby decreased.

Question 5. To what extent is the United States becoming over-dependent on foreign sources for critical raw materials?

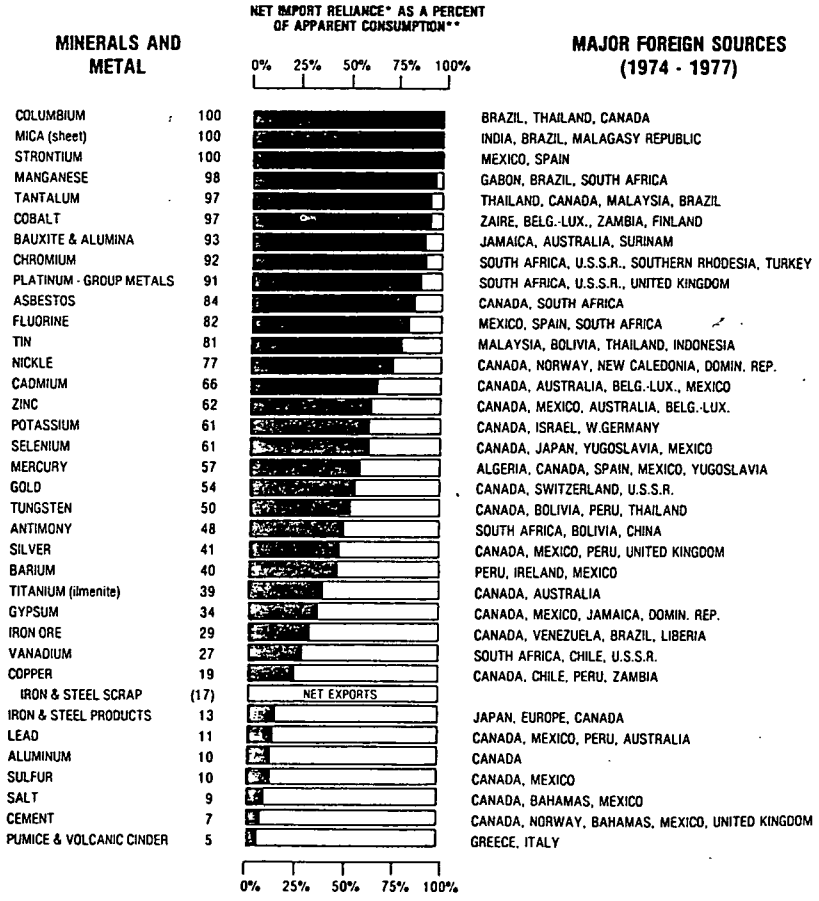
Answer. There are four vital and strategic minerals being nearly totally imported: manganese, chromium, cobalt, and platinum group metals. Of particular concern is the origin of these minerals: South Africa, Zambia, Zaire, Zimbabwe, and the Soviet Union—all volatile regions. Other important minerals largely imported are tantalum, tin, strontium, alumina, and nickel. All these are important alloying elements in steelmaking, and in particular to steel grades associated with reactors, jet engines, defense material, power generation, space vehicles, etc.

The attached charts graphically illustrate the dependence of the U.S.A. on foreign sources, and the relative positions of the U.S.A. and U.S.S.R.


America's Dependence
(Imports as a Percent of Consumption — 1978)
Minerals And Metals
0%
25%
50%
75%
100%
Columbium
Mica (sheet)
Strontium
Manganese
Tantalum
Cobalt
Bauxite & Alumina
Chromium
Platinum Group Metals
Asbestos
Fluorine
Tin
Nickel
Cadmium
Zinc
Potassium
Selenium
Mercury
Gold
Tungsten
Source: U.S. Bureau of Mines


Self-sufficiency in metals: Russia vs. the U.S.
Steve Hart – BW
Aluminum (bauxite)
Antimony
Chromium
Cobalt
Copper
Lead
Manganese
Nickel
Platinum group
Tin
Titanium
Tungsten
Zinc
U.S.
Russia
0
50
100
150
200
250
Percent self-sufficient
Data: Interior Dept.

U.S. NET IMPORT RELIANCE OF SELECTED MINERALS AND METALS AS A PERCENT OF CONSUMPTION IN 1978



*NET IMPORT RELIANCE = IMPORTS EXPORTS + ADJUSTMENTS FOR GOV'T AND INDUSTRY STOCK CHANGES

**APPARENT CONSUMPTION = U.S. PRIMARY + SECONDARY PRODUCTION + NET IMPORT RELIANCE

SOURCE: U.S. Bureau of Mines

COMBINED SOUTHERN AFRICAN AND U.S.S.R. PERCENTAGES OF WORLD'S RESERVES OF SELECTED MINERAL COMMODITIES

Commodity	Southern Africa's percentage of world's reserves	U.S.S.R.'s percentage of world's reserves	Combined Southern Africa and U.S.S.R. percentage
1. Platinum group metals	86	13	99
2. Manganese ore	53	45	98
3. Vanadium	64	33	97
4. Chrome ore	95	1	96
5. Diamonds	83	4	87
6. Gold	50	19	69
7. Vermiculite	60	(1)	60
8. Fluorspar	46	4	50
9. Asbestos	25	25	50
10. Iron ore	5	42	47
11. Uranium	27	13	40
12. Columbium-tantalite	38	(1)	38
13. Cobalt	25	(1)	25
14. Copper	13	9	22
15. Titanium	5	16	21
16. Nickel	12	7	19
17. Zinc	10	8	18
18. Lead	4	13	17
19. Coal	5	10	15
20. Phosphate rock	8	4	12
21. Tin	4	6	10
22. Antimony	4	5	9

[1] Not available.

Source: E. F. Andrews, vice president for materials and services, Allegheny Ludlum Industries, Inc., June 1979.

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