Good Morning. I'm pleased to be here to give a perspective on the state of the munitions industry and challenges facing us as we enter the next century. It is an honor to speak to such an erudite and intellectual group. I assume you know how to tell whether you're an intellectual. The test is if you can listen to the William Tell Overture without thinking about the Lone Ranger.

Thank you, Al, for the introduction. However, after seeing the very distinguished list of speakers, I was wondering why I was selected. I asked Al. He said, "Well, we ran out of funds for speakers" – that made things clear enough. As you know, you get what you pay for.

A little over two years ago a report was released by the Pacific Northwest National Laboratory entitled: "Recommended Strategy for Configuring and Managing the US Munitions Industrial Base". In that report the authors wrote: *A fundamental conclusion of our work is that there is something special about ammunition and ammunition production. It requires knowledge and skills that are distinct. The people who develop and produce munitions and manage the related business processes is an identifiable community. We have concluded that it is crucial to keep this special community intact*."

Crucial. That is in fact the reason we are here today. It is the motivation behind the tireless efforts of the men and women in this industry and organizations such as the MIBTF, the ICAP and the NDIA. I know that I speak for the entire industry when I recognize these organizations for their hard work in fostering a general recognition of the Munitions Industrial Base - a crucial force in supporting the readiness of our Armed Forces.

But we are a group that has been in a state of turmoil for nearly a decade. Declining defense budgets, and more precisely, the declining share of these smaller budgets, devoted to procurement in general, and munitions in particular, have hurt us. It is very likely that there is not a business person in this room who

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hasn't experienced the frustration of trying to sustain their business through this difficult time. The Army, Navy, Air Force and Marines are our customers, but primarily we are owned by an investment community who demands investment appreciation.

It is important, I believe, to have an understanding of how our industry position has developed. The unique industrial sector dedicated to supplying the Government with weapons and military equipment, of which the munitions industrial base is a part, was a creation of the Cold War. It didn't exist before or even during World War II. It was built beginning in the early 1950's in response to this tension and fear.

As the Iron Curtain fell on Eastern Europe, at the end of the second world war, and the relationship between the United States and the Soviet Union deteriorated, US defense strategy changed. Instead of reverting to a historic peacetime economy, the US began to build a large specialized industry segment. The constant state of confrontation that characterized most of the 1950's and 1960's required a permanent defense industrial base.

As the Cold War dragged on both sides sought to achieve military advantage. The Soviet Union and its satellites sought numeric advantage in conventional forces. As an example, at one time they maintained a battle tank force in excess of 50,000. Lenin once said, "Quantity has a quality all it's own." During this time, the US and its allies sought advantage in technology and training. This strategy drove the creation of a complex system of production facilities, depots and laboratories. Many of these were owned and operated by private corporations; others were Government-owned but operated by private contractors.

This huge capacity to design, develop and produce weapons was fed by a high level of Government investment in military research and development. Adding to this direct R&D funding by the Government, weapons system procurements

created a corresponding pull demand for private R&D investment from within the defense industrial base. Throughout the 1950's, 60's and early 70's, much of the technological innovation in this country resulted, either directly or indirectly, from Government military investment.

After the end of the Viet Nam conflict in 1973, the US military began a significant draw down. How many times has the US done this?. That reminds me of a story. One member of a golf foursome of old friends said he was dropping out of the group, because of declining eyesight. He couldn't see where he hit the ball and didn't want to ruin his friends' game. His friend said. "don't do that, I know a guy with great eyes who will ride with you as a spotter." He finally agreed. At their next outing, he hit the ball, returned to his cart and said, "Did you see it"? "Yes", replied the spotter, "It was a great shot". "Okay, where is it?" His response, "I can't remember". We never seem to learn or remember.

US military readiness suffered materially under the Carter Administration defense budget cuts during the late 1970's. Upon his inauguration in 1980, President Ronald Reagan outlined his plan to significantly increase military spending across the board. Throughout his administration President Reagan used defense budgets to both bolster the overall US economy as well as to set a standard of military readiness that the Soviet Union was unable to match. Growth in the defense procurement budget attracted new firms to enter the defense industrial base and encouraged existing firms to expand their capacity and capabilities. Although private sector research and development spending surpassed Government R&D in 1981, defense budget growth in real terms was to be the hallmark of the 1980's.

Ronald Reagan's strategy of spending the Soviet Union into submission was successful. The Cold War officially ended with the destruction of the Berlin Wall in 1989. Most of the membership of the former Communist Bloc one-by-one

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embraced democracy, or at least capitalism, and broke away from the Soviet Union.

With the former Soviet Union in disarray the public and Congress, again, began clamoring for a "peace dividend" Even the US-led coalitions, claimed victory, over Saddam Hussein during Operation Desert Storm was not enough to blunt the calls for reduced military spending and transfer of budget dollars from defense to social programs. President Bush's 1992 budget included substantial defense spending reductions. Clinton followed this up with even deeper budget cuts, especially in the procurement accounts, in 1993 through 1996. As a result, allowing for the effects of inflation, total US spending on defense decreased 28% from 1990 to 1997 with that portion allocated to procurement declining from $99 billion in 1990 to less than $45 billion in 1997.

Clearly the defense industrial base could not survive these reduced budgets intact. Changes had to be made.

However, few could have foreseen the magnitude of change that the industry would be forced to initiate in order to survive. Since 1990 total job losses in the defense industrial base have been estimated at 2 million. Defense firms, including those in the munitions industrial base, responded to the cuts of the past decade by consolidating operations, closing facilities, reducing costs and workforce reductions. Another issue and concern on my part is that critical, intelligent, young people won't choose to work in an industry they define as dying, replacing those of us who are in the process of so doing. For its part, the federal Government weighed in with acquisition reform and the partial abandonment of unique Government specifications and standards in favor of commercial standards. Many firms attempted to move into commercial markets to fill the void left by the decline in defense spending, with limited success.

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I like the observation made by former Lockheed Martin CEO Norm Augustine, who said: "The defense industry's diversification track record is unblemished by success" .

Other firms turned to the international defense market to bolster their sagging sales. But the breakup of the Soviet Union had left not just the US with significant over-capacity, but many of its allies as well. Further, many of the former Soviet states, and satellites possessed indigenous defense production capability that they were eager to market at any price to keep people employed. In relatively short order the world had excess weapons and equipment that had few buyers. Although we enjoyed distinct advantages in quality, technology and reputation, US firms found it difficult to replace US Government sales with sales to foreign countries.

Continuing lean defense budgets in the mid 1990's, exacerbated by the DoD practice of reprogramming procurement dollars into operation and maintenance accounts to pay for unfunded peace keeping efforts in Somalia, Haiti and Bosnia, required further structural changes in the industrial base. Some firms, especially smaller, undercapitalized ones, simply ceased operations. Conglomerates spun off their defense-related operations into independent companies to satisfy aggressive and disenchanted stockholders. That was the genesis of Primex, my company, almost three years ago. When the spin was announced, the parent's stock jumped 10% the same day. A wave of mergers and acquisitions ensued, which the Government tacitly subsidized through favorable treatment of restructuring costs as allowable overhead expense. Surviving companies pursued strategies of "vertical integration" to maximize their value added in those procurement programs that survived the budget cuts. The shape of the industry changed dramatically. Deputy Defense Secretary John Hamre, in remarks made this past October at Tufts University, expressed concern at the erosion of defense industry stock prices. He referred to the "herd mentality" of many

mutual fund managers. I think he missed the point that there is a big difference between a good stock and a good company.

All of which brings us to the present.

Today the munitions industrial base is a viable although significantly smaller industry sector. Defense outlays for ammunition increased this past year and are planned to increase substantially over the next four years, from a total of $1.9 billion in 1999 to nearly $3.0 billion in 2003, according to the 1999 Future Years Defense Plan. But we will face continuing challenges in the years ahead.

These challenges include:

Continued under-funding of the services ammunition requirements. Representative Hunter of California, a member of the House Armed Services Committee, has reported on several recent occasions to Congress that in FY1999 the Army is $1.7 billion short of basic ammunition and the Marine Corps is $193 million short. Even the significant increase in ammunition funding over the next four years will not erase this shortage. Further, the planned increase in ammunition procurement, like the planned increases in other procurement programs, are presumed in the Future Years Defense Plan to be funded from savings anticipated in areas such as acquisition reform. True acquisition reform within the system is analogous to teaching an elephant to tap dance. If the elephant doesn't learn to dance and these savings do not materialize, all of the procurement program increases, including ammunition, are at substantial risk.

There is a Lack of a Clearly Defined Government Strategy for Preserving the Munitions Industrial Base. The US munitions industrial base has essentially one primary customer – the Department of Defense, and is dependent on it for its viability. Without an integrated, cohesive munitions procurement strategy that includes consideration toward maintaining the base,

we are open to conflicting requirements and priorities, uncoordinated acquisition plans, and arbitrary imposition of procurement restrictions. Furthermore, the Government still has not adequately addressed the question of what to do with the munitions productions capability under their control, the GOCOs, GOGOs, arsenals and depots. The belief that the Government should privatize these assets is recognized within industry but no clearly defined plan to accomplish this has yet been advanced to deal with the political realities.

Increased Competition. How can increased competition pose a threat in an industry that has experienced massive retrenchment over the last five years? The answer lies in three areas. First, increased targeting of the US market by foreign munitions producers. Given the worldwide glut of armaments, international producers are redoubling their efforts to gain market share in the US and they aren't above dumping products here to support their own social systems. There is a general naivete, ignorance, or an I don't care attitude, about the business tactics of foreign companies. In a prior job, I led an industry coalition that won 23 dumping cases, to that point the most ever. I know of what I speak. Even though our defense acquisition budgets have declined over 60% in real terms since 1985, the US still remains the largest single munitions market in the world. With the consolidation that is currently reshaping the European defense industry, some of these foreign producers now have substantial competitive leverage, both financially and politically.

Second, a number of US firms that were not involved in ammunition production five years ago have entered the munitions market, especially in development of precision guided munitions. As the overall defense procurement market contracted, companies which were previously concentrated in other "high tech" defense areas, such as aircraft and missiles, have turned their attention to the munitions market seeking growth opportunities.

Finally, private industry is competing more and more with Government entities for research and development contracts. This is occurring in an environment of reduced research and development funding. The national laboratories, service battle labs, test facilities and other organic assets are strenuously marketing their excess capacity and capabilities in order to maintain work levels and preserve jobs. As a result, less RDT&E money is made available for contracting.

Shareholder Expectations Always Give Us a Concern. With the sustained economic expansion now nearly a decade old and still going strong, investors have higher expectations for dividend and share value growth. Financial performance of individual companies should begin to improve if the munitions procurement budgets are increased. However, profit margins and return on investment remains low in this industry sector, compared to the other opportunities available in the equities market. The price to earnings ratio of competitive ammo producers is an average of 10 to 11 compared to a market in general of 30+. One potential investor said to me: “Why should I buy your stock when I can get 2-3% appreciation in grocery stocks?”.

I could go on. There are certainly more challenges and changes ahead than the few I have mentioned. Over the last decade the munitions industrial base has been resilient and adapted to the changing demands of our market. We have accepted the reality that the smaller ammunition budgets of the 1990’s were not just a temporary aberration to be endured, but a preface to permanent, fundamental change in the Government’s demand for our goods and services.

Change is best summed up in a statement by Machiavelli from “The Prince”: “There is nothing more difficult to take in hand, more perilous to conduct or more uncertain in its success than to take the lead in the introduction of a new order of things. Lack of success in what we do is not an option.”

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But in order to succeed to continue to evolve into a more stable, flexible and versatile partner to our country's fighting forces, we need the cooperation of our federal Government. We need the Government to effect a series of reforms and improvements in the way that they do business with us. I have identified several specific recommendations for change which I believe will help shape an environment that allows for the cost-efficient maintenance of a strong, healthy and dependable munitions industrial base. These are:

Adequately Fund the Service Requirements for Ammunition. The ready availability of adequate war reserve quantities of tactical ammunition is key to the munitions doctrine. The operational tempo of regional conflicts and operations other than war will not allow for a lengthy period of preparation. Under these scenarios, US military forces will be called upon to respond quickly and decisively. They will have no time to wait while we produce the means to achieve dominance. The Government must also recognize that readiness is not just a function of the availability of equipment and material, it is also a function of training. In the reduced force structure of the 21st century, every US combatant will have to train continuously and effectively. While there is a role for simulation and "virtual reality" in this training, there is no substitute for the act of physically handling and firing training versions of the munitions that our troops will be called upon to use in a hostile environment.

The services must insist that future defense budgets fully fund their training ammunition requirements. For its part, Congress and the DoD must ensure that these appropriations are "fenced off" to prevent them from being diverted to fund unforeseen or inadequately funded operational and maintenance accounts. The use of multi-year procurements can dramatically reduce the overall cost to acquire adequate stocks of both training and tactical ammunition. By providing long term budget authority for ammunition, Congress can allow the services to take full advantage of the cost savings realizable through multi-year procurements while at the same time facilitating a critical element of stability into

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the munitions industrial base. Unfortunately, these contracts are political footballs.

It is time for the Government to exit the business of producing munitions entirely and fully embrace the more appropriate role of “informed buyer”. By contracting directly for ammunition components, then contracting separately for their load, assemble and pack, the Government retains a significant amount of value added to the end item, in-house. This is an inefficient way to acquire munitions and provides a negative incentive to commercial industry.

Conversely, by procuring end items using a systems acquisition approach, the Government transfers this value added to the prime contractor. The additional work helps to spread the prime contractor’s fixed overhead costs over a larger base, resulting in reduced unit costs for all concurrent production. Additional profits realized from this component of value added strengthen the financial stability of the enterprise elements of the base, generate additional federal income tax revenues and increase the potential for additional private investment in defense-related R&D.

This recommendation is not new; it was presented in the Pacific Northwest National Laboratory study which I mentioned earlier - many of you may refer to this as “the Battelle Study”. It was also one of the recommendations of a report released last year by the Senior Policy Panel of the Center for Strategic and International Studies. This report, which was used as a reference in preparing my remarks, was the product of a senior policy panel co-chaired by Mr. Schlesinger and Weidenbaum, and directed by Daniel Goure’.

We are beginning to see some system acquisition procurement of munitions, especially artillery ammunition, that had previously been procured through breakout. But this recommendation needs to be fully implemented across the board.

I'd Like To See a Single Army Executive for Ammunition. The position would be to integrate service requirements, acquisition plans and DoD policies into an overall strategic plan that supports a healthy and stable munitions industrial base. This recommendation was central to the conclusions of the Battelle Study. By my support, I do not ignore the efforts and actions taken recently by the Army to highlight and improve the acquisition of munitions. I am aware of the existence of the Triad Executive Council and its stated purpose: "To pursue the most comprehensive and cost-effective approach to the life-cycle management of munitions for the Army".

The current members of the Triad: Major General Arbuckle, the Commanding General of the Industrial Operations Command; Major General Caldwell, Jr., Commanding General of TACOM; and Major General Michitsch, PEO for Ground Combat and Support Systems, are officers well known to us in the industrial base. The use of IPTs - Integrated Product Teams - to advise and report to the Triad is a management tool proven successful on a number of recent hardware development programs. I have every confidence that the members of those teams are all outstanding and knowledgeable individuals, well-suited to performing their roles.

But I maintain that the creation of the position of Army Executive for Ammunition, and the vesting of authority, responsibility and accountability for munitions procurement strategies, budgets, and maintenance of the industrial base, in a single, empowered individual is the best approach. To this end I would recommend retaining the current IPTs, especially the Integration Planning Team, as advisory bodies. But I would charter a single position with making the final decisions and seeing that these decisions are implemented in the most straightforward and expeditious manner possible. Furthermore, the Ammunition Executive would facilitate the centralization of responsibility for all ammunition funds in one place.

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We Must Continue to Implement Real Acquisition Reform. As the consolidation and realignment of the munitions industrial base continues to evolve, the number of competitors for specific defense items and families of items will continue to decline. In some cases there may remain only a single source for certain items. In most cases only two or three qualified firms will compete to supply DoD requirements for munitions. The defense department agencies must accelerate their efforts to eliminate procurement policies and procedures that place the ideology of competition above the attainment of best value. Competitive procurements should not be done if there is only one desired source. This is expensive for bidders and the Government.

The federal Government and the DoD have made some progress in acquisition streamlining and in accomplishing the Quadrennial Defense Review's call for a "revolution in business affairs". But do you really mean it? As an example, I knew the Chairman of one of the largest corporations in the world. He regularly made pronouncements on how to straighten out his company's problems. Unfortunately, he had no more idea what was going on in his factories than a pig knows about Sunday School.

Don't be stymied in your efforts to break through the bureaucracy in your own organizations – believe me you have it - we all do. Management by walking around is critical to keep you informed. I encourage the Government, and each of you, to stay the course on these initiatives and expand upon them to the greatest extent possible. Every dollar spent on non value added procurement is a dollar that is not available to produce the products and services that both support service personnel, and help to sustain the munitions industrial base.

I would increase munitions R & D Test & Evaluation funding which would have two highly desirable effects. First, it will help to ensure that the distinct skills, knowledge and "mind set" of our ammunition community is preserved. This

capability exists nowhere else in the US outside of the munitions industrial base. Without a robust R&D Test & Evaluation component, the Government risks the very real possibility that these capabilities will be lost, through a combination of attrition and cost reduction. As the remaining superpower in the world, we cannot allow this critical edge to be lost.

Second, increased R&D Test & Evaluation funding should be used to streamline and reduce the development cycle for new munitions. Currently the development of a new munitions takes an average of seven years. This is a long period to generate the kind of pull demand for private sector R&D investment that has characterized the industry for thirty years following the Second World War.

If the services could reduce the cycle times they would help us. The automotive industry, in order to remain competitive, has cut development time for new products as much as 80%. Why can't we? If development cycles are accelerated through additional funding to an average of three to four years, at maximum, industry will be more easily able to justify investing in the unique and innovative technologies that can reduce the eventual serial production costs of these new munitions.

I would propose the Government place additional emphasis on internal cost realism analysis as an evaluation factor and selection criteria for cost reimbursable procurements. Most research and development contracts remain cost reimbursable. This is appropriate, since the technical, schedule and cost risks associated with R&D activities often cannot be accurately quantified. When soliciting for procurement of these types of activities, the Government correctly seeks to obtain the best value; i.e., the best combination of technical and management approach, past performance and price. Problems arise when contractors seek to maximize their competitive position by minimizing the risk

associated with a particular technical approach. This results in a cost estimate for work to be performed which does not include adequate provision. Given the highly competitive nature of these contracts, and the fact that the more lucrative low rate initial production requirements are often included as options, the temptation is to discount risk in order to minimize total estimated cost.

This practice can have costly and disruptive consequences. It can lead – to significant cost growth and schedule delays when the inevitable problems surface, during performance of the contract. What appeared to be "best value" to the Government source selection team can rapidly become a troubled program, drawing resources away from other munitions priorities. By placing increased emphasis on internal assessment of the realism of contractor-proposed costs in a "best value" environment, the Government should provide strong motivation to all bidders to accurately present the risks associated with their individual technical approaches, and to account for these risks in their program cost estimates. In this way we can largely avoid the creation of troubled cost reimbursable programs and thereby enhance the stability and health of the industry as a whole.

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Much has been written and discussed over the last few years regarding privatization of the Government-owned, Government-operated and Government-owned, contractor-operated facilities which comprise the organic base for munitions production. This organic base includes sixteen army ammunition plants, eight of which are still actively engaged in defense-item production as GOGOs or GOCOs; twelve depots and the three operating arsenals.

Although the issues surrounding privatization of these assets are numerous and complex, a general consensus has surfaced that the DoD should integrate the organic base with the commercial industrial base into a fully-commercialized munitions production base. This action would remove the cost and liability of ownership from the Government and place it in the hands of industry who would

then use private capital to consolidate and modernize these assets in response to market forces.

This would resolve the single most controversial aspect of the current situation; that is, the practice of workloading certain Government facilities at the expense of free and open competition with commercial industry. In October of this past year the Army issued a policy clarification letter which addressed the application of the Arsenal Act to Government owned production facilities. While not specifically mentioned, I have great concern that this would be applied to GOGO's and GOCO's at the expense of the private sector.

This would allow workloading of the Government plants through the use of incremental pricing evaluation. These plants would partially price by including only a portion of their overhead costs although they would bill for the full costs through program execution. And remember; all of this would be done prior to a decision to compete this materiel.

One major stumbling block to privatization has been the issue of responsibility for the environmental liabilities associated with most of these sites. Operations at these plants date from as far back as 1813 in the case of Watervliet Arsenal, with the majority of ammunition plants and depots having commenced operations just before or during the Second World War. Any workable privatization plan for the organic base must include indemnification of the new owner/site manager/operator from responsibility for any environmental liabilities arising from past operations. Without this indemnification the exposure of private companies to potentially huge costs for environmental remediation is unreasonable, uninsurable and unacceptable. The Government must take responsibility for past environmental damage that occurred under its stewardship.

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I recommend the formation of an executive-level task force comprised of federal Government, DoD, Army and industry representatives which is chartered and mandated to develop a detailed plan to privatize the elements of the organic base within the next five years. This plan must ensure that: 1) free and open competition among North American firms is employed in the privatization process; 2) safeguards are maintained to preserve sufficient quantity/distance assets to support both peacetime and replenishment demands; 3) unique, long lead production equipment is maintained; 4) A common set of accounting standards is promulgated to ensure consistent recognition of the value of these commercialized assets when employed or proposed to be employed in the production of defense items under a prime contract.

I am confident that, if the right team is assembled and given full responsibility and accountability for accomplishing this crucial task, a fair and workable solution to this persistent problem will be developed.

My final recommendation seeks to recognize the existence of the global marketplace and the importance of integrating that marketplace into the domestic munitions industrial base. Our industry appreciates the important role that both the Department of Defense and the Department of State play in preventing the undesirable export of valuable US defense technology, and the corresponding need to control such technology exports through a formal licensing procedure.

However, we are too often frustrated by the pace at which these export licenses, Technical Assistance Agreements and Manufacturing Licensing Agreements are processed. Opportunities are missed and competitiveness is hampered when US munitions producers cannot engage international customers or potential partners in meaningful discussions of our products and capabilities. For example, Daimler-Chrysler Aerospace in Germany recently stated publicly that it

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would “prune itself of US subcontractors” due to difficulties in getting timely approval of export licenses and assistance agreements.

The review and approval cycle for these requests, which according to a recent article in *Defense Daily* currently exceeds 100 days, must be reduced through a combination of process streamlining and the application of additional trained and knowledgeable personnel. We look forward to public release of the plan submitted by the services and the Defense Threat Reduction Agency (DTRA) last month to Deputy Defense Secretary Hamre and hope that it will form the basis of a workable solution to this very serious problem.

These are my recommendations for improving the environment in which the munitions industrial base will usher in the new millennia. I hope that I have said something of value for your consideration.

And to conclude my remarks this morning. A quote from the Bible: “Many have fallen on the edge of a sword but more have fallen by the tongue.” I hope that is not my destiny as a bi-product of this speech. Thank You.

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