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DEFENSE SYMPOSIUM ON INDUSTRIAL PREEMINENCE FOR NATIONAL SECURITY

The following is a summary of presentations made during a recent defense symposium which examined the U.S. defense industry and its future capabilities in the post-Cold War era. Participants included representatives of the U.S. defense industry and the Department of Defense. The objective of the symposium was to stimulate dialogue and understanding of industrial capabilities to support modernization, warfighting and reconstitution, and the initiatives to enhance these capabilities. Due to the importance of the subject matter, this summary of the presentations is being made available to AUSA members. It was compiled and condensed by the Institute of Land Warfare staff; it is not a verified transcript and no quotations or direct attributions should be made.

Introduction

The symposium, conducted at Fort Lesley J. McNair, Washington, D.C., on 28 May 1992, was hosted by the Industrial College of the Armed Forces and sponsored by the Association of the United States Army, the Air Force Association and the the Navy League of the United States.

Following introductory comments by GEN Jack N. Merritt, USA Ret., President of the Association of the U.S. Army, and MG George W. Larson, Commandant of the Industrial College of the Armed Forces, keynote comments were made by HON Donald J. Atwood, Deputy Secretary of Defense.

Condensation of Remarks By HON Donald J. Atwood

Today we have an opportunity to take advantage of the new security environment and to reduce our force structure and our defense spending. Yet, uncertainties remain. We have to maintain the military capability to guarantee our security in future years.

Plans call for reducing the military to a Base Force by cutting our force structure by 25 percent over a five-year period. Cutting force structure also means cutting personnel. A smaller force requires fewer bases. All of these changes are reflected in sharply reduced defense budgets.

Nowhere are the reforms more evident than in the defense acquisition process. In real terms the defense procurement budget is already only half of what it was in 1985. The rate of weapons production in the years ahead will be considerably below that of previous years and well below the production capacity of our defense industry. There will probably be a gap in the requirement for some of our systems.

At the same time, it remains essential that we maintain our technological advantage over potential adversaries. The gulf war clearly showed the importance of superior technology.

Our new approach places increased reliance on research and technology development to maintain our advantage. We are making greater use of technology demonstrations and prototypes in the development of new weapons, and not all new weapons will automatically go into production. We will incorporate new technology into a current systems only when fully proven and there is genuine need for improved performance or reliability. Full scale production of new weapons systems will occur only when there is a definitive need because of obsolescence or aging of an existing system and when it is proven cost effective.

Because there will be excess production capacity there must be a rationalization of industry. There is going to be a shake-up and teaming, joint ventures and mergers may be necessary and desirable.

Department of Defense is taking action to insure that critical technology is funded properly in research and development programs by identifying promising or existing critical technologies essential to the nations defense and insuring U.S. leadership in these fields.

We are eliminating fixed price type contracts for research and development work where there is significant technical risk. R&D must be made attractive in its own right because of the reduced opportunities for production. R&D will have to be a pay-as-you-go operation.

We are encouraging the dual use of technology. Most defense technologies also have commercial applications. We are taking steps to insure that critical manufacturing processes are maintained even during gaps in production.

We recognize the need to reduce the bureaucracy associated with our acquisition system. Burdensome reporting requirements are an unnecessary drag on the defense procurement process. We are taking steps to reduce the number of regulations affecting acquisition. Also, we are revising the procurement contract guidance which sets down the rules for doing business with DoD.

We will share the concerns for the industrial base and for the technical and engineering skills sustained within it. We must take all sensible measures to protect it.

Next on the agenda was a presentation by Dr. Jacques S. Gansler, Senior Vice President and Director, the Analytic Sciences Corporation.

Condensation of Remarks by Dr. Gansler

We need to think of the industrial base not as something unto itself, but something that provides equipment for the Department of Defense. If you try to assess the effectiveness of the defense industrial base in terms of weapons systems, you do it in terms of performance, cost, schedule, etc. If you look

back in history in terms of performance, the U.S. makes the best weapons systems in the world. If you look at cost, they cost too much. If you look at scheduling, they take too long. They could be made with higher quality. Responsiveness could be improved.

The biggest problem is with the cost of equipment. The unit cost (after taking out inflation) has been rising at five to seven percent a year. We have been getting more but paying more. Additionally, weapons systems are taking longer and longer to build, at dramatically rising costs. We are going to have to build systems in the future and the question is how much will they cost.

In the 1980s, by doubling the defense budget, we were able to only stay within the existing production rate of 300 fighter planes a year. Across the board, our defense takes longer and longer to produce new weapons systems at greater costs. In contrast, commercial trends are going in the opposite direction.

If we consider essential weapon systems for the next generation and the critical list of technologies that go along with them, two things are different about this list than we had thought of historically: (1) a large number of process technologies (in addition to product technologies), and (2) most of the technologies are not defense unique — thus, civil/military integration is the way to go.

In conclusion, weapons cost too much and take too long. Capabilities and manufacturing improvements as well as cost containment methods of the private sector are essential. Civil and military integration is essential. A new vision of the defense industrial base as well as a change in the way defense business is done are necessary.

The next session was a government panel on government policy chaired by HON Stephen K. Conver, Assistant Secretary of the Army for Research, Development and Acquisition. Other members of the panel included HON Gerald A. Cann, Assistant Secretary of the Navy for Research, Development and Acquisition; LTG John E. Jaquish, Principal Deputy Office of the Assistant Secretary of the Air Force for Acquisition; and Michael W. Cotter, Director, Defense Relations and Security Assistance, Department of State.

Summary of Remarks by HON Stephen K. Conver

The key issue is what industrial capabilities we really need to equip our forces now and in the future with world class equipment.

As long as we are certain that we have suppliers who can provide quality equipment, capabilities or technology, we should not be too much concerned about who those suppliers are, and with few exceptions, we should not buy anything we don't need to sustain the industrial base.

Some things we could use to help sustain key portions of the industrial base include new production upgrades, foreign military sales, stretch out of production, best value source selection and helping facilitate industry-initiated consolidations.

In the Army there has in the past few years been a trend to spend disproportionately on R&D and not enough on procurement. In the current budget, for every dollar of R&D we will spend only 1.25 dollars in procurement. Consequently, our ability to continually modernize our forces has fallen. We need to keep procurement higher in relation to R&D.

Continuous modernization in the Army means that we have to put more money into procurement recognizing that we cannot afford a lot of new production. The key concept becomes upgrades to our existing platforms. We need to make the cornerstone of our modernization one of doing upgrades and technology insertions to the major platforms we have. We ought to be upgrading our tanks, helicopters, Patriots, Blackhawks, artillery pieces, etc. Upgrading is a low cost alternative to new production.

I would like to stress the idea of joint programs. We need to reconcile the relatively small differences in requirements so we could have more joint programs.

A key question is what the government's role should be in shaping or helping to shape the industrial base. I think it is incumbent on us to take something more than a "laissez faire" approach.

One thing we can do is to allocate workload between government and industry. We should see some migration of government work to the commercial sector.

We should recognize that there will be less competition as the industrial base declines. We need to do a better job of source selection and make sure we pick for best value, and take past performance into account.

We need to help industry as it downsizes and, we can improve our efficiency as well as can help shape the industrial base by our policies.

Summary of Remarks by HON Gerald A. Cann

Today's "quick fix" is reducing the defense budget. The major issue is how we implement these reductions. The Navy has a balanced plan to reduce and restructure our forces in light of the changes in the world situation which support the Base Force. In the meantime, procurement accounts are coming down.

Requirements determination, in light of the current threat, is a pervasive issue. It is difficult to reconcile some of the programs we currently have in the face of the collapse of a definable threat as we have defined it over the past forty years. Future requirements need to be better defined.

The budget has become totally unpredictable. If asked what the budget will be next year, I would have to reply that I just don't know. We need agreement on a budget structure with a six-year plan in which everybody can have some confidence. I don't know how industrial planners can plan in the face of so much uncertainty.

Next is the issue of continuity. Once a decision is made, we should stick to it. Once things are set in place they cannot be changed readily. It generally takes three to four years. All of us, both industry and government, need continuity.

One of the problems is that any decision we make becomes open to question when the decision becomes remotely public. Those who feel they have been left out of that decision are over on the Hill working the staff to get a modification or a change. Those of us trying to defend continuity and address industrial base issues logically spend an awful lot of time trying to undo the damage done by various lobbying groups. It's often a case of one group lobbying to take money away from program A (which we need and want) to fund program B. A lot of my effort goes toward keeping in place programs that we think are important. In the end, it is these items that will dictate the direction in which the industrial base is going.

Corporate planners need to know what the requirements are, what the budget level is and have confidence in continuity. If this can't be done, there is a legitimate question on whether it makes good sense to be in business.

Summary of Remarks by LTG John E. Jaquish

Technological superiority of our weapons systems has been a major pillar of our success. This was only achievable with a viable industrial base and with the products of a government industry team.

We can expect future conflicts to be of short duration, high intensity and come as you are. The Air Force is dependent upon technological superiority.

The defense industry is in a period of downsizing, and that will continue. When we talk about the industrial base we encompass both public and private sectors to include laboratories, test facilities and service depots.

We are now allowing industry to compete for service depot work that heretofore was given exclusively to the depots. The current law specifies that 60 percent of depot work within the services must be identified as core and that 40 percent of the work can be done by contract. Within the 40 percent, 10 percent can be competed between industry and the depots.

The Air Force is working to alleviate some of the legal restriction associated with competition for depot work. The 60 percent core figure is probably too high and some more direct competition between industry and the depots should be allowed beyond the 10 percent.

Another important aspect has to do with contractor logistic support. The Air Force has selected several weapons systems to go to contractor support for the life of the weapons systems — the KC-10 is a good example of that. In the future, we will probably look more to contractor logistic support if it provides the needed mission capability at the best cost.

While industry must continue to downscale and cut overhead, performance on current contracts will remain the dominant factor as to who is in business and who will be doing business in the future.

Over-reliance on prototyping can be dangerous as new or advanced manufacturing technology would not be tested adequately on real production lines. Also, the manufacturing expertise and know how which had been built could well be lost. When the time comes to restart higher rate production to build more weapons systems, the start-up cost could be enormous. So, while a greater emphasis on R&D is appropriate at the front end of the new procurement policy, an effective policy should include selected low rate production on key major weapons systems. Selective low rate production provides both industry and the armed services sufficient experience to produce and use these weapons in the interim. Also, some minimum levels of procurement are invaluable marketing tools for sales on the international market.

In conclusion, rationalization of our industry is the key to reasonable future hardware costs. Industry must take the lead to rid itself of excess capacity and better match supply with demand. Government, on the other hand, should encourage and support rationalization. Some minimum level of ongoing production, however, remains essential for maintaining critical capabilities and for foreign sales.

Summary of Remarks by Dr. Renso L. Caporali

The defense market really has only a single buyer. When you combine this with a small number of bidding opportunities for any particular type of hardware, you get a series of case-by-case decisions which determine who lives and who dies before anything of value is produced or a capability demonstrated.

The case-by-case decision process could conceivably wipe out an entire industry.

I don't believe the notion that large doses of R&D could maintain a real defense industry capability is realistic. One strategy would be to include selective upgrading of weapons systems and selective low rate procurement. The prototyping of new systems should not only provide continuing R&D, but also insist on some continued manufacturing, thus giving assurance that something could be built in quantity if required.

Selective upgrading will maintain a position of the production base and is probably the most cost-effective way to keep equipment we already have up to date. There is less enthusiasm for selected low rate procurement.

The industrial base is much more than plants and milling machines. It includes a lot in terms of knowledge and experience. If the people with that knowledge and experience disappear, a rapid buildup is not going to be possible.

Despite claims that in the future we will have a lengthy warning period, the time factor I believe will turn out to be critical. Warning is not going to come from a telephone call. It will likely develop by a series of little signs, and these may not begin to show up until a number of years down the road when. If things have been allowed to decay, there may not be the residual base for producing a lot of equipment.

The temptation will be not to plan effectively. There will be pressure to take significant amounts of money to spend on other domestic priorities, whatever they might be. But, while we have to focus on social needs and find a way to provide for them, we must also provide for our defense.

Summary of Remarks by Richard E. Clemens

We are a small company and we build track combat vehicles. We are about half the size we were six or seven years ago with half to two-thirds of our sales made internationally. We are building our products at one-fourth to one-third the total volume we had about six years ago.

With procurement FY 1990-1993 growth of a minus 31 percent for DoD, minus 51 percent for the Army, and minus 74 percent for weapons and combat vehicles, there had to be a new way of doing business.

Focusing on weapons and tracked combat vehicles, the current capacity is over three times the demand, with decreased demand in the foreseeable future. While direct competition is desirable, it may not be affordable; also, second sourcing on small quantities is probably not justifiable, and we can't afford to duplicate capabilities. In short, the acquisition process, as we have known it in the past, isn't suited to today's environment.

What should DoD and the government do? Some basic recommendations include:

- Encourage strategic alliances which remove capacity.
- Incentivize downsizing and retooling; also, efficient, flexible, and responsive production.
- Help the capacity problem by supporting international sales.
- With competition, pick the winner based on an industrial base best value formula.

Some modifications in the acquisition process are merited. Help is needed in protecting the second and third tier supplier base. An industry/government partnership should be looked at in the overall depot/arsenal strategy. Clearly something needs to be done to mitigate the redundancy of non-value added inspections and oversight, all of which add to overhead costs and are counter to efforts in commercial environments. Finally, we should not protect the tech base at the expense of the production base — we need both.

Summary of Remarks by Armen Der Marderosian

I want to talk about the industrial base from an integrator's point of view.

There is a need for changes in the way this country does business. Failure to change is not a fault of the system. It is our fault. It is our failure as policy makers to cooperate as a whole to serve the best interests of our country. It is total quality management at the national level.

Look at Japan. How did they come so far so quickly. Their masterplan was purebred American. They coupled that plan with teamwork. They created integrated teams of government, suppliers, management, engineering and manufacturing.

There are many American industries that are world class, including those in the defense sector, where many products demonstrated high caliber success in Desert Storm.

In the commercial world, one of the main problems is the drive for short-term financial gain. In the defense industry, even more disastrous is the lack of trust among all the participants, which results in micromanagement, outrageous audits and oversight, and laws and regulations applicable only to this industry and to government counterparts. We have abdicated our management responsibilities to the lawyers and the auditors who did their work in an aggressive and efficient way. We are, after all, the recognized world class leaders in these two disciplines.

American world class industries didn't just pop-up over night. It has taken many years to develop and mature. When the engineering, manufacturing, management and supplier teams have all broken up, even three to five years may not be enough time to bring them back together. The thought that commercial markets could sustain the capabilities essential to support our country's future defense needs is mostly wishful thinking.

Where are these companies going to go in commercial markets? Use of commercial off-the-shelf products to extend the industrial base is an important consideration, but unique capabilities, such as designing and building a tank, can't easily be duplicated in the commercial world, and it could take from two to four years to bring it back if shut down.

When we are dealing with super systems, composed of many smaller systems, the problem is even more complex from the systems integrator point of view. An integrator must not only assure that his own capabilities are current, but must also assure that the many subcontractors that he works with are also up to the task. Keeping full service suppliers in each of the strategic areas is important.

DoD is going to have to make some hard and fast policy decisions. Even more important, all parties, including Congress, need to give their wholehearted support and cooperation to this effort. If we can't get back to cooperating and trusting each other, we can't get anywhere.

Summary of Remarks by William F. Paul

I would like to talk about the issue of the defense industrial base and the defense budget.

Figures like \$100 billion to \$150 billion defense budget reductions through FY 1996 below the projected baseline in the 1990 budget agreement, which surfaced in Congress this year, are enormous — this compared with the \$50 billion reduction proposed by the President. This would devastate virtually every program and every initiative that has taken place.

Before we say we can't do much about it, consider what happened this year in the House. The House passed the Panetta budget by a surprisingly narrow margin and all six of the Connecticut

Congressional delegation, (three democrats and three republicans) voted as a block against the budget. The reason was because of the Sea Wolf submarine. It had scared the daylight out of Connecticut. It was an early and painful example of what would happen if the big cuts suggested earlier were imposed. There are a lot of people giving up political capital on this issue.

We need to put the numbers in the federal budget into perspective.

Outlays for FY 1993 are estimated at \$1,373 billion versus receipts of \$1,165 billion. Outlays for defense are estimated at \$291 billion which is less than interest on the debt (\$315 billion) and social security (\$291 billion).

Total federal taxes for FY 1993, exclusive of Social Security taxes, is estimated at \$785 billion. Compare this with total outlays, exclusive of all Social Security payments and all defense, and we get \$923 billion. So just shifting defense funds is not going to solve the deficit problem.

The pressures on the defense budget, however, will be intense with further defense cuts, defense budget downsizing and lost jobs. The defense companies already faced with heavy debt loads will face a credit crunch and heavy write-offs.

Industry is weaker economically than in previous drawdowns and international competition is very strong.

Take, as an example, the airline industry — an area where the U.S. is the world leader. Net profit and loss statistics are not encouraging. Airlines were profitable from 1984 through 1989 but have experienced big losses in both 1990 and 1991.

For aerospace, the economic conversion must consider international defense, civil aircraft, space, and other commercial activities, to fill the gap.

Understanding of the situation and grass roots support are needed.

Summary of Remarks by John V. Sponyoe

The Federal Systems Company has been recently structured at IBM from the former Federal Systems Division. It has a single, coordinated focus on IBM's largest customer, the federal government. Comments and recommendations are made from this perspective. These are addressed under the following headings: Bridge the Gap, Systems Integration and Acquisition Strategy.

Bridge the Gap

The most expansive and disruptive regulations I can cite are cost accounting standards or CAS. Mandatory adherence to CAS (a rigid and elaborate set of rules) forces accounting practices which are inconsistent with accepted practices of American industry. There is no logic in implementing CAS on a facility that is 99 percent commercial and one percent military.

My recommendation is that industry and DoD undertake a cooperative effort to establish flexible standards and practices to eliminate the gap between military requirements and good commercial practices.

Systems Integration

We are prepared for critical technologies but there is also a critical skill between the technology and use. This is systems integration. We must maintain our systems integration skill base needed to tie together technologies into a system that serves the designated purpose. Within the integration business, we have three core competencies: integration management, software development and systems engineering.

To preserve our operation knowledge base, DoD needs to facilitate more open dialogue between contractors, customers and end users throughout the project life cycle from pre RFP right up to proposal submission.

We must recognize and support systems integration as a critical skill in the same way we recognize critical technologies.

Acquisition Strategy

Acquisition strategies have much to do with the quality and price of the whole solution.

First, we must change the “how-to” acquisitions to requirements acquisitions. We should not be getting specifications and statements of work, rather we should be getting requirements.

Consider limiting the number of bidders. Keep open dialogue through proposal submission between customer and industry (example: our contract for the British ASW helicopter program. In dealing with the British Minister of Defense, the dialogue between the supplier and the customer went through proposal submission). In the U.S., dialogue now ends at RFP or even earlier. Maintaining the dialogue would result in a better product, understanding of requirements and fewer protests.

We are committed to market driven quality or TQM.

In summary, we need to remove the regulations that stifle dual use technologies, recognize system integration as a critical technology, take another look at acquisition strategy practices and continue to focus on TQM to achieve maximum efficiencies.

Concluding the symposium were comments by HON Michael P.W. Stone, Secretary of the Army.

Summary of Remarks by HON Michael P. W. Stone

The four papers issued by Deputy Secretary of Defense, dated May 20, 1992, cover basic policy on defense acquisition, defense industrial base, defense science and technology strategy, and science and management and oversight.

Acquisition policy is woven around seven thrusts:

- Global Surveillance and Communications
- Precision Strike
- Air Superiority and Defense
- Sea Control and Undersea Superiority
- Advanced Land Combat
- Synthetic Environment
- Technology for Affordability

Despite the projected budget reductions, DoD is still looking at a significant amount of research development and acquisition business between 1993 and 1997 — on the order of \$190 billion of R&D and \$300 billion of procurement.

We are all impatient to see a more definitive posture on industrial base issues. It is difficult to evolve such important and sophisticated questions into simple conclusions and simple declarations of policy overnight. There is much on which we can agree, such as the general emphasis on technology.

The Secretary of Defense has responsibility to translate the national military strategy into policies for the department, including procurement. I have had my opportunity, as have the other services secretaries, to present viewpoints.

Regarding an integrated industrial base and the privatization of production, the Army Material Command is privatizing about twenty-five production lines a year. We must be realistic, however. We can't get rid of all our depots and we cannot privatize all the work in the depots, but we can do some of this and I am all for it.

I have no doubt that we can effectively work together to maintain our defense industrial preeminence.

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