



# ASSOCIATION OF THE UNITED STATES ARMY

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Institute of Land Warfare

## ARMY ACQUISITION STRATEGY AND INDUSTRIAL BASE ISSUES

Summary of  
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The contents of this summary of proceedings represent the personal opinions of the participants and not necessarily the position of the Association of the United States Army or its members.



## I. INTRODUCTION

This issue conference, the fourth to be held at AUSA National Headquarters during 1991, focused on the impact of reduced defense budgets and a downsized Army on future Army acquisition plans, U.S. industry capabilities in competitive international markets and the future viability of the U.S. industrial base.

The outline of the issue conference, to include the principal presenters, and a list of participants are attached. This document is a summary of the presentations and roundtable briefings, including a synthesis of the questions and discussions that followed and the overall conclusions and summary of the conference. In accordance with the ground rules of the issue conference series, except for a synopsis of the comments by principal presenters and roundtable briefers, no direct quotes or attributions are made.

There were a total of 33 attendees representing Department of the Army, Army Materiel Command, OSD, senior service colleges, the Army's acquisition program community, U.S. industry, defense-oriented associations, and AUSA leadership and Senior Fellows. The conference was chaired by General Jack N. Merritt, USA Ret., president of AUSA, and General Glenn K. Otis, USA Ret., AUSA Senior Fellow. After appropriate introductory remarks by the chairmen, the Honorable Stephen K. Conner, Assistant Secretary of the Army (Research, Development and Acquisition) kicked off the issue conference.

## II. ARMY ACQUISITION STRATEGY: PLANS, PROBLEMS AND ISSUES (Mr. Stephen K. Conner, ASA (RDA))

Mr. Conner identified the resource crisis confronting Army acquisition. As O&M and military pay accounts in the defense budget take up a greater portion of total obligational authority (TOA) over the balance of the decade, the investment account will decrease. An extension of the present trend lines, without an infusion for investment funding, would virtually squeeze out investment by the year 2000.

In discussing the Army's acquisition needs, Mr. Conner stated that the Army's overall acquisition goal is to put world-class equipment in the hands of our soldiers, in the shortest possible time and in quantities that are militarily significant. Consistent with this goal are the need for the use of sound business practices and the requirement to operate within affordability constraints.

The approach to achieving the overall goal for modernizing the Army involves three strategies:

Modernization Strategy, the general approach to equipping the Army, recognizes that the smaller Army will have to be more modern, as well as

well-trained and ready. This requires a policy of continuous modernization and not accepting risks of delaying modernization efforts solely as a near-term economy measure.

It means that obsolete equipment should be retired as early as possible. Older equipment is too costly to operate and maintain, has low combat effectiveness and offers little growth potential. Modern technology has to be inserted into existing, more capable platforms through upgrades.

New modernization programs should be pursued only when a credible threat dictates, when current equipment has exhausted its growth potential or a new technological opportunity requires a new end item. Additionally, the technology base has to be protected to preserve future options.

A successful modernization strategy means that sufficient procurement funding has to be provided to get ideas out of the laboratory and into the hands of soldiers.

Resource Allocation Strategy, or what the Army buys, involves the funding of both the procurement and the research and development accounts. For a sound long-term program, the procurement to R&D ratio should be no lower than 2:1. However, it is about 1.3:1 now and could go to 1:1 or less in the future.

Procurement should be at least at minimum efficient rates and in sufficient quantities to equip at least all of Force Package One (immediately deployable). The exceptions are "silver bullets," deployed in small numbers, that force an opponent to counter-develop a capability. If these conditions cannot be met for a particular project, and we are not willing to fund all of the project (R&D and subsequent production), then the project should be terminated. We should fund only those programs that satisfy a strong user need, are executable and are approvable by OSD and Congress.

Savings from operations and support (generated by retiring obsolete systems or by introduction of more efficient equipment) can and should be plowed back into the procurement of replacement systems.

Acquisition Strategy, or how the Army buys, is aimed at minimizing the total cost of equipment that is procured by the Army. This is done by eliminating cost and schedule overruns to the best of our ability. We either systematically fix or eliminate existing programs in overrun status and implement policies and procedures to help prevent overruns in future programs. This means reducing over-optimism and providing incentives for contractors to submit bids in realistic terms.

We need to ensure harmony in every acquisition program among requirements, technology and acquisition strategy, and have the flexibility to make adjustments as a program goes along.

Some other modernization issues are the need to:

- o Improve the decision-making process for acquisition; this includes reconciliation of user versus developer requirements, budgeting for stability and articulating an acquisition strategy that includes milestones and special reviews.

- o Refocus our policy for dealing with the industrial base. The industrial base will be shaped largely by market forces; therefore, we have to protect unique and militarily-significant capabilities, especially those that are not reconstitutable. In this regard, the concept of surge capability applies more to consumables than to major end items.

- o Do a better job in equipping the Army National Guard and Army Reserve. This involves retiring older, less combat-capable equipment and replacing it with modern, more capable equipment.

- o Continue to improve the quality and training of the acquisition force.

- o Resolve international cooperation issues. While the focus is primarily on domestic industry, we should emphasize international cooperation on coproduction of nationally developed equipment. Coproduction is preferable to cooperative development. Cooperative development is too easily disrupted, especially when it involves several participant countries.

### III. FOLLOW-ON DISCUSSION

Army modernization and the crisis of a negative investment trend is a serious problem facing the Army. Getting more funds from the DPRB process offers little promise since there is no flow of funds from strategic to conventional programs.

Accepting near-term risks so as to produce more advanced items later is a policy that does not work. A consistent, continuous acquisition system is needed.

The O&M account can be reduced by retiring older equipment in the reserves (e.g., M60 tanks). Partial replacements to RC units from the active component could be made while accepting less unit readiness for a period of time. The reserve force structure could be preserved while replacement equipment continues to be fielded.

How does one argue for a high-low mix of modern equipment -- a mix which was based on the "War in Europe" scenario? It is doubtful that the National Guard, however, would accept lesser quantities of replacement equipment.

International cooperation programs can be easily halted by congressional staffers and participant countries. The fewer participant countries involved the better.

We should remember that the O&M account also contributes to the industrial base (i.e., spares). Many major spares formerly funded by procurement are now in the O&M account under the new Defense Business Operating Fund Concept and about one-third of the spares are in the sustainment category.

Industry needs to know what the acquisition strategy is. If there is a longer-term future for a particular industry, then investment decisions can be made. Foreign sales will help preserve the industrial base.

#### IV. DEFENSE INDUSTRIAL BASE: INDUSTRY PERSPECTIVE

(Mr. William F. Paul, Senior Vice President, United Technologies Corporation)

Mr. Paul provided an introductory perspective on the industrial base. Long-term capital is not available principally due to the unknowns regarding future requirements. Current statutes, laws and financial requirements inhibit industry incentives. The second and third tiers of U.S. industry cannot gear up because the cash is not there.

There is a need for a national policy statement. The battle lines for U.S. industry have to be drawn at the national level. Only then will there be stability, profitability and cash flow in the market place for a viable industrial base.

Using aerospace as a case study perspective, the following points were made regarding the present and future health of that portion of the U.S. industrial base:

- o The aerospace industry is the only U.S. manufacturing industry with a positive trade balance; the industry is competitive in the international marketplace.

- o International commercial business is the driving force in the aerospace industry. If an industry company is solid domestically and internationally, then the defense component of that company will survive.

However, there are disturbing trends in the worldwide market place that will affect the aerospace industry as well as other industries. This will have an important impact on U.S. defense needs.

Europe is catching up with the major U.S. aerospace companies. The overall defense trade balance with Europe has decreased from an export/import ratio of 8.5:1 in 1983 to 1.7:1 in 1987. Aggressive competition from the European Community (EC) will further erode the historical trade balance.

Defense industry has to have enough money to be there. Cash is the big issue. There are only two U.S. banks among the world's largest 48 banks. So, where are U.S. industries to borrow capital?

In the U.S., it will take industry policy and strategy coupled with strong government support to achieve an acceptable level of industrial base viability. The problem: U.S. defense programs are not stable, trade policies are generally restrictive, industry debt is growing and small suppliers are leaving the defense arena.

The health of the U.S. aerospace industry is not good today. Stock prices are down (in many cases market value is far below company sales); debt is huge (the debt/equity ratio of aerospace firms has grown from 40 percent in 1988 to 60 percent in 1990); cost of borrowing is higher and banks are unable or unwilling to lend. These circumstances force companies to go overseas for cash.

Defense represents the largest single segment of U.S. aerospace sales (43 percent in 1990). Consequently, the aerospace industry will be greatly affected by future defense budgets.

The ratio of investment to O&M and personnel costs is decreasing in the overall defense budget, but more dramatically in the Army share of the defense budget. Also, previous assumptions regarding GNP growth and national budget deficits through 1996 now appear to be unrealistic and contribute further to the unreliability of defense budget projections.

The fact remains that U.S. industry is weaker than at the end of World War II, Korea and Vietnam and competition is fiercer.

The industry is prepared to downsize further in support of a downsized defense. However, a downsized business must be bankable. To ensure a healthy aerospace industrial base, several things will have to be done by the cognizant actors: decide on requirements and stick to them; stabilize defense budget downsizing; resize industry; lower costs of doing business; properly fund programs; incentivize industry research, development and modernization; reduce trade restrictions; and help industry to compete internationally.

The Army in particular should focus on stopping the budget free-fall. The Army's successful role in Iraq should be used to justify the need for the same standard in the next war. In the final analysis, decisions made 20 years ago saved lives in Iraq, and the decisions we make today will save lives ten and twenty years from now.

## V. FOLLOW-ON DISCUSSION

A firm national policy is lacking. Leadership is needed.

As DOD is downsizing, so is industry. Foreign defense budgets are

also going down. Still, we are looking at defense relationships abroad because we can't afford to go it alone. International planning is needed.

It is flawed reasoning to say we can use the marketplace to control the defense industrial base. No value is placed on unused capability in a free market, but it is needed in the defense industry.

The defense industrial base has to be defined. It includes GO/GO plants, depots, supply systems and dedicated defense contractors. It has to be defined by sector, both government and private, since each is different. It also includes the needed intellectual know-how in critical industries.

We need a clear strategy for all DOD components to facilitate foreign sales. There is lack of full cooperation between government and industry; for example, on such things as delivery schedules to foreign customers. Balance is needed between end-items and associated support. This involves listening to foreign customers; they operate differently. Ultimately, our regional policies will shape how foreign sales go.

There is need for a statement of support from the Executive Branch to preserve the defense industrial base as a world-class competitor and as an essential element of national security.

VI. ROUNDTABLE PRESENTATION AND DISCUSSION: INDUSTRIAL BASE RESPONSIVENESS  
- OPERATIONS DESERT SHIELD/DESERT STORM (COL Len Fullenkamp and  
COL Joseph Arbuckle, CSA Fellows, Army War College)

In our study, three questions were addressed:

- o Why didn't the industrial base system respond automatically to Operation Desert Shield requirements?

- o How can the industrial base system become more responsive to the demands of future contingency operations?

- o Can the Army fundamentally change the way it exploits the capabilities of the industrial base system?

Findings were that the industrial base support for Desert Storm was a success, particularly for such commodity needs as increased production of chemical suits, meals, desert uniforms and desert boots. However, Desert Storm illustrated industrial base shortcomings.

Current industrial base strategy is outdated because the environment has changed, namely the threat continues to evolve and diversify and the nature of the production base is shifting. The Army has not yet adapted to this changing environment.

The threat environment ranges from peacetime competition, to contingency operations, to war. Consequently, industrial base support has to be flexible by maintaining a warm base, retaining the capability to surge all classes of supply and preparing for possible mobilization and reconstitution where the manufacture of major end items will be required.

However, the industrial base is also changing, principally due to market pressures. There are fewer defense contractors (including subcontractors), less modernization and capitalization within the industry and greater foreign dependence. As a consequence, there has been a loss of surge and mobilization capacity.

A new strategy is needed for the current environment that will posture the industrial base to support power projection and reconstitution. To ensure adequate surge and mobilization capacity and a warm base, the strategy should address industrial preparedness planning, revised policies, clear command and control, exploitation of new techniques and revised requirements determination. The objective of such a strategy is an industrial base configured to support a trained and ready Army.

Additional questions addressed:

- o Can the industrial base support reconstitution? What steps can be taken to improve industrial base support?

- o Will the technology base master plan assist industrial base production capability? What can be done with the technology base master plan to help solve industrial base problems?

The worst case threat scenario visualized for 1995 and beyond stipulates a need for additional combat divisions within 24 months for a major extended conflict. Such a scenario would demand regeneration (activating documented forces and accelerating industrial production to generate additional military power) and reconstitution (filling cadre divisions, creating undocumented forces and expanding a mobilized industrial base to create new military power).

Study assessment is that the industrial base would not be able to support required reconstitution in 1995 and beyond, and the sustainment of long wars is questionable. We should concentrate on power projection and forward presence by building sustainment and surge capacity; pursue or acquire technology which over-matches adversaries, shortens wars and minimizes casualties; reassess our warfighting capability; and exploit capabilities of an evolving industrial base. Reconstitution is a national problem.

With regard to the technology base master plan assistance to the industrial base, the objective should be to build sustainment/surge capacity in the short term while assisting with reconstitution in the longer term.

Overall conclusions and recommendations: Reconstitution is a crucial national issue; reconstitution requirements need to be defined, to include refinement of Army requirements; the reconstitution capacity of the industrial base is uncertain and a detailed joint capability assessment is required.

Available data indicate the Army cannot meet reconstitution objectives in 1995 and beyond. The Army should resource sustainment and a surge capability for power projection and support a modernization strategy that allows near-term improvement of critical systems. The shrinking procurement dollar will affect the industrial base; therefore, the industrial base should be more visible in the program and additional resources sought where needed.

### Discussion

There is need for a reasonable scenario in the industrial planning process for response by industry. Also, a sharper focus is needed on what critical items are needed.

Soviet scenarios are no longer persuasive. At the same time, the low casualties experienced in Desert Storm will drive measures of success in the future.

The industrial base is not designed to surge; it is a pull system.

We need to refine military specifications (MILSPEC), consider items for dual-use, consider use of non-MILSPEC items and change the way we do business in defining procurement needs.

## VII. ROUNDTABLE PRESENTATION AND DISCUSSION: ARMY INDUSTRIAL BASE PLANNING (MG Fred Elam, Army ADCSLOG)

Army industrial base planning is limited to U.S. and Canadian producers. The unified commander's warfighting requirements drive the process.

In Operation Desert Storm, industry was willing and impressive in short-term performance; however, performance was not without challenges and shortfalls. We learned that we must maintain a warm base capability in critical areas for future conflicts or purchase war reserves to sustain a conflict.

Accelerated production, accelerated RDT&E, reallocation of war reserve stocks and a six-month buildup contributed to overall success in Desert Storm. Desert Storm success did not depend on lengthy surge or acceleration of major weapon systems; industrial base response was primarily acceleration of warm base secondary items, spares and consumables. The operation also highlighted the need to improve logistics infrastructure management to reduce duplicative requisitioning.

Post-Desert Storm planning is aimed at major regional contingencies where the industrial base is capable of fulfilling demands for spares, repairables and consumables; the industrial base would surge for replenishment. In a major war, the industrial base would have to focus on major end items for reconstitution.

Planning concept for the Army is titled Graduated Mobilization Response (GMR) and involves planning mobilization actions in incremental steps to facilitate reaction to early warning -- to deter, mitigate, support or recover from a broad range of national security emergencies. Future planning vectors include:

- o Maintain selective retention of capability as spending is reduced (ability to respond).
- o Maintain competitive technological edge.
- o Maintain U.S. capability for critical industries.
- o Maintain emphasis on effective industrial base planning with industry and allies.
- o Program efficient peacetime capability; increase responsiveness for selected items.
- o Define force on which to plan; provide feedback to unified commanders.
- o Execute effective layaway of planned closures.

#### Discussion

We will need greater stockage of long lead time items even for short crisis situations because of high consumption rates. Consider also that an industry might maintain a warm base by having one shift; however, a surge capability may still not exist due to lack of skilled personnel for additional shifts. Also, the definition of usage rates and surge needs cannot totally rely on definition by the unified commander. We still need to articulate a process to better identify crisis needs requiring industry surge.

War reserve stocks and POMCUS are assets for short wars; their use changes the timelines for needed industrial surge. Days of supply in a theater will also affect industrial planning. In Desert Storm, we specified 60 days even though order-to-ship time was less than 30 days.

#### VIII. REVISED ACQUISITION PROCEDURES: CONTRACTING POLICIES AND INITIATIVES (LTG Billy Thomas, DCG(RDA), AMC)

The acquisition challenge for the Army involves fewer forces, people, dollars, defense companies, depots and ammo plants while seeking higher quality, productivity, effectiveness and efficiency. The goal is a technologically superior, trained and ready Army.

The Army's acquisition vision involves providing world-class equipment and wherewithal to our soldiers in the shortest time while ensuring the best value for both our soldiers and the American taxpayer.

Acquisition objectives are to achieve quality, shape the required industrial base, reduce operating and sustainment costs, and use international and commercial technologies and markets where beneficial and appropriate. The bottom line must be to reduce cycle time from industrial base to the soldiers' hands.

There are five interlocking strategies to achieve the stated objectives:

Quality strategy involves improving processes from requirements to soldier handoff. It involves commitment to total quality management, quality programs and concurrent engineering. It also aims at improving communication between the Army acquisition element and industry.

Industrial base strategy requires us to define organic and commercial core capabilities. We plan to develop products and processes concurrently and integrate defense and commercial sectors where feasible. We must identify and protect minimum essential and critical defense-unique capabilities, however, and seek to reuse excess capability for new programs.

Operations and support cost reduction strategy will use technology insertion and engineering changes to reduce overall operation and support costs for Army weapons and equipment, thereby reducing life cycle operating costs. It will encourage value engineering proposals and provide incentives for industry.

International strategy requires us to evaluate the international technology base, identify areas for possible codevelopment and identify opportunities for foreign military and direct sales. We will foster coproduction efforts and seek to standardize and shorten international approval processes. Also, we will structure for international markets.

Acquisition improvement strategy includes using advanced planning briefings to industry, providing quality solicitations, and selecting on a best value basis. At the same time, we want to reduce contract actions and reduce cycle times. Also, we want to listen more to industry.

The acquisition strategy involves actions for the Army, DOD, industry, and Congress.

## IX. FOLLOW-ON DISCUSSION

We need to do a better job shaping the industrial base, especially as it pertains to supporting major (longer-term) contingencies with emphasis on the deep battle requirement. We are banking on a technologically superior Army, but lack an acquisition vision. Still, the defense

industrial base will have to depend on commercial markets -- defense needs alone will be too small. Contract awards will help shape the industrial base, as will component coproduction and the recognized technological capabilities of other countries.

The idea of using dual lines to include both civilian and military production will not work. It's essentially a question of different rules and accounting procedures, making government work more costly and cumbersome than for the civilian sector. The requirements of the FAR are a huge barrier in combining work because of the special requirements of government acquisition. Companies simply cannot follow the same (i.e., government) rules across the board or they would not be competitive in the nongovernment sector.

It was pointed out that while we have been focusing on funding in the procurement appropriations as the primary source for defense industry, there is substantial O&M funding which also procures things, including spares and major components. While Army procurement appropriations total about \$8 billion, an almost equal amount is in the Army's O&M budget for procurement. In the future, the using customers must purchase spares and components through the new Defense Business Operating Fund with consumer (i.e., O&M) funds. We need to consider the whole pot when assessing the impact on various sectors of the defense industry.

It was also noted that the upgrading of existing weapon systems should be considered as a significant factor. It could help keep a warm production base for some companies. While the spares business is important, the impact differs considerably from sector to sector. It is most important in the aviation sector.

The question was raised again on when a procurement action actually starts. Provisions of the law make close informal business/defense working relationships difficult as the start of procurement means all must go to the formal network, with a criminal penalty for violation. All parties, therefore, are super-careful. When the procurement formally starts is still subject to interpretation and remains a gray area. A common, easily interpreted definition of this is still needed.

International companies and markets must be seriously considered in analyzing the status of the industrial base. This includes cooperative production, international business buying-in to enter the U.S. military market, technology transfers to developing foreign competition and prime contractors off-loading subcontract work for offset/cooperation purposes.

It was pointed out that a recent Defense Science Board report for future defense investments recommended surveillance, C3 and long range/high capacity deployment capability.

Something needs to be done soon to ensure a viable industrial base. The U.S. must decide it intends to be the world leader in the defense industry.

The industrial sectors are so much different that we need to analyze by sector and we need a policy by sector.

The laissez-faire economic model is not sound for most of defense industry; major systems generally represent a single buyer and only a few producers -- and sometimes only one, like the Army's main battle tank.

Internally, the Army needs to construct a model based on projected resources and assess its ability to accomplish designated missions effectively with assured success and minimum casualties. If the factors preclude missions from being accomplished, then a case should be made for greater recognition, including resources. It must be made clear where national security interests cannot be served.

#### X. SUMMARY NOTES

First we must define what we mean by the industrial base as it pertains to defense and national security. It has many facets which bear on the capability of the nation to meet contingency requirements of various magnitudes and durations. When discussing any aspect of this complex picture, the parameters and specific elements being considered must be clearly defined.

Also, it must be acknowledged that the industrial base is not a monolith; rather, it is the sum total of a number of different sectors. Each is different and is being affected differently by the economy, international markets, international competition and the impact of defense cut-backs.

Overall national policy on this subject seems to be lacking, or at least it is very difficult to define. Industries are pretty much on their own with their future shaped largely by market forces. In the meantime, there appears to be little appreciation of what is happening to the U.S. capability to reconstitute and support major military contingencies. Clear choices will have to be made in some key industrial areas regarding the technologies to be fielded and those to be shelved. This must be understood and communicated to senior leadership.

Current studies indicate an ability to support short-term contingencies, including surge capabilities for basic consumable items; but all indications are that the capability will not exist to support a major reconstitution which requires the production of major items. This must be recognized in contingency planning and either accepted or policy changed to improve the situation.

A broad policy on the industrial base is needed for two scenarios: short war and reconstitution. Issues to resolve include an acquisition strategy (to include the possibility of accepting less ready units); lack of a U.S. industrial policy; and the apparent mismatch of industrial policy with overall strategy.

Some things AUSA will now attempt to do:

o Continue to study and further define the issues outlined in this conference. In defining the parameters, AUSA will focus on those aspects which are both critical to the Army and lend themselves realistically to some meaningful proposals and actions. This will lead to some additional issue seminars on this subject dealing specifically with the various sectors.

o AUSA will also start preparing a briefing packet to define and synthesize the issues into meaningful segments; also, to provide notes for discussion with senior personnel in OSD, the Executive Office and Congress on the concerns and recommendations.

o Finally, AUSA plans the preparation and publication of a monograph on the subject later in the year.

In conclusion, there seems to be both some confusion and a lack of understanding on the status of the defense industrial base. It is clear, however, as the defense budget goes down, defense industry will be degraded, and with it the capability to support national defense security requirements. This subject merits serious and continuing study, effective planning and a sound national policy.



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enclosures  
agenda  
attendees