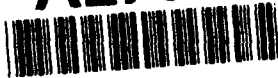


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A Combat Arm's View of the New Defense Acquisition Strategy

Lieutenant Colonel
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A COMBAT ARM'S VIEW OF THE NEW DEFENSE ACQUISITION STRATEGY

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The dramatic reshaping of the world during the past three years has put the United States in a position to significantly reduce its defense budget. Not only will this reduction affect DoD's armed forces but also its material acquisition process. The purpose of this paper is to assess the new defense acquisition strategy through the eyes' of the user. It uses a historical vignette to illustrate the impacts on the soldier of decisions made in acquisition. It examines the current plans for technology insertion as well as the external challenges our field forces may encounter. Recommendations include continued modernization, reasonable procurement to research and development investment ratios, and adequate user representation on the Defense Technology Board.

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A COMBAT ARM'S VIEW OF THE NEW DEFENSE ACQUISITION STRATEGY

"Those who cannot remember the past are condemned to repeat it."

George Santayana
The Life of Reason

INTRODUCTION

The dramatic reshaping of the world during the past three years has put the United States in a position to significantly reduce its defense budget. Not only are there plans to reduce its armed forces by twenty - five percent but also to redesign its material acquisition process.

The new acquisition strategy will reduce the number of weapon systems procured as well as reduce concurrency in developmental programs. This reduction in concurrency should consequently reduce program risk and the associated costs. The effect on a program's schedule is still unclear. Even though we will reduce the quantities of new weapons produced, there is a need to maintain technological superiority. This paper examines the acquisition strategy from a warfighters' viewpoint and considers the question most relevant to the ultimate purpose of military research and development (R & D):

- o Will the strategy ensure American soldiers have the best equipment in their hands at the time of a crisis, when there is little warning?

A HISTORICAL PARALLEL

The former Under Secretary of Defense, HON Donald J. Atwood, on 28 May 1992 summarized the new Defense Department acquisition strategy as:

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

Since budget and cost have become such critical elements in determining whether a system is fielded, the new acquisition strategy deserves scrutiny as to its impact on the American soldier.

Just like after World War II, we have defeated a world threat and are again facing a drawdown in our armed forces and reduced defense budgets. A look back in time may illustrate the pitfalls of decisions made under similar circumstances.

On 30 June 1950, General MacArthur ordered the 24th Division from Japan to Korea. He ordered a small task force from the division flown into Korea ahead of the main body to engage the North Korean Army as quickly as possible. The small delaying force, Task Force Smith -- part of the 1st Battalion, 21st

Infantry -- landed at Pusan Airfield on the southeast tip of Korea on 1 and 2 July, with LTC Charles B. Smith in command. Colonel Smith's delaying force was sent forward to engage the enemy on sight. South of Seoul, the task force dug hasty positions on the night of 4 July and awaited the approaching North Koreans. Shortly after 0800 on 5 July, the North Koreans appeared. The Americans stood until they expended their ammunition, then retreated under fire, suffering heavy losses as they were overwhelmed.

Paraphrasing T. R. Fehrenbach from his book, This Kind of War, this is the story of what happened.

The enemy tanks were now only two thousand yards in front of the infantry foxholes and still coming. Bursting HE shells blasted into the tank column, spattering the advancing armor with flame and steel and mud.

"Jesus Christ, they're still coming!" an American infantryman shouted.

Colonel Smith now ordered the 75mm recoilless rifles to hold their fire until the tanks got within 700 yards.

Moments later, at 700 yards both recoilless rifles slammed at the advancing tanks. Round after round burst against the

T-34 turrets, with no apparent effect.

Alerted by this opposition, the tanks stopped and turned their machine guns on the ridge where the Americans had fired. The tanks fired their machine guns, ripping and clawing the hillsides. Suddenly, American soldiers dove for any cover they could find.

Lieutenant Ollie Connor, watching, grabbed a bazooka and ran down to the ditch alongside the road. Steadying his 2.36-inch rocket launcher on the nearest tank, only fifteen yards away, Connor let fly. Nothing -- the small shaped charge burned out against the thick Russian armor without penetrating. Angrily, Connor fired again, this time at the rear of the tank where the armor protection was supposed to be thinnest. He fired twenty-two rockets, none of which did any damage.

There was nothing mysterious about the Russian T-34. It had been used against the German panzers in front of Moscow in the early forties. Some said the T-34 was the best all-around tank used in World War II. It could be stopped-but not with the obsolete equipment in the hands of the American soldiers in Task Force Smith. Their weapons were useless against the enemy armor.

After World War II, the American Army had developed improved 3.5-inch rocket launchers, which would penetrate the T-34. But in competition with strategic battleships and long-range bombers for scarce dollars, the Defense Department decided not to place them in the hands of the American troops.¹ American military historians record this sad story as a dramatic American defeat.

The pattern of this first engagement was repeated during the following days. All combat elements of the 24th Division fought the enemy bravely; but their inferior weapons left no choice but to retreat or be annihilated.

As Fehrenbach's story clearly illustrates, there is an undeniable difference between laboratory research and fielded technology. No one would claim that North Korea was technologically superior to the United States in 1950. However, the North Korean soldiers had better weapons than the Americans of Task Force Smith. At that time and place, the North Koreans had a clear superiority in their fielded equipment.²

COMBAT VEHICLE STATUS

In an attempt to answer the soldiers' question, from a combat arms perspective, it is beneficial to examine the status of close combat ground systems.

While our current fleet is very good, it is necessary to look to the future. As an example, let's examine one of the fleet -- the M1A1 tank. It was one of the stars of Desert Storm and considered one of the best tanks in the world. The Army currently has 8,000 M1 type tanks in the inventory, but only 1500 are the latest M1A1 version. Fielded in 1985, the M1A1 1970s' technology will be old by 1995 and obsolete by the year 2000.

The next upgrade, the M1A2, represents the state of the art in tank technology. The original plan was to produce only 62. This has been modified by recent foreign sales to Saudi Arabia and Kuwait of around 500, and an upgrade plan for approximately 400 older M1s. This will keep the production base warm, but will not provide sufficient numbers to equip all our forces with the newest equipment. In light of future budget cuts, there could be more M1A2s in foreign hands than in the U.S. forces.

The Army recently abandoned its modernization program of the future -- the Armored Systems Modernization (ASM) program due to cost. ASM was a program to modernize over 6000 armored vehicles on one of two common chassis. This commonality was designed to improve warfighting capability through compatibility, survivability, force agility, and lethality. At the same time it was projected to save over \$10 billion in maintenance, training, testing, support and parts stockage costs.

Except for the Advanced Field Artillery System (AFAS) and its accompanying Future Armored Resupply Vehicle-Ammunition (FARV-A), all other components have been canceled or returned to the tech base. There is an alternative plan to use current system chassis to form a family of vehicles, but there are no other long range modernization programs currently funded.

With the demise of the Soviet Union and the quick victory in the Persian Gulf, the consensus in Congress and DoD is the equipment we have is "good enough" and there is no real urgency to modernize. Or, as Mr. Atwood stated to Congress:

" With the end of the Cold War and the decline in world threat, the need to bring new systems into production is no longer as urgent. We do not need to produce weapon systems at the pace we did in the past. There is more time to reconstitute larger armed forces if and when they are needed. We speak of warning time in years, instead of days, when we look ahead for global threats that might require major reconstitutions."

From the lack of long range modernization plans and the feelings of complacency exhibited by DoD and some members of Congress, it is questionable whether the best equipment will make it to the field anytime soon.

EXTERNAL CHALLENGES

Considering that our next military conflicts will be regional, the notion of a "lack of a threat" is wishful thinking. While the former Soviet Union does not pose a serious threat as an entity, their equipment is readily available around the world --

to Iran, Serbia, or anyone else. Not only has it been fielded throughout its surrogates but also is now available at bargain rates to whomever has the hard currency to buy. This is not just the normal Foreign Military Sales (FMS) quality equipment but includes even their top of the line T-80 tank and BMP 3 fighting vehicle. This equipment is equal to and in some cases superior to what we currently have fielded.

In addition, the reductions put in place by the Conventional Forces in Europe (CFE) Treaty, have put as many as 10,000 tanks and 20,000 personnel carriers available for sale on the world market. While a percentage may be older, new ammunition, add-on armor and improved optics, to include thermal technology, are all readily available for retrofit. Likewise, there are still three former soviet production plants producing quality equipment.

But does this matter? Skeptics will say that based on the Persian Gulf War, our technology is superior. True at the time. But if we look below the surface, the technological advantages we enjoyed in the ground war quickly boil down to two key areas:

- o Our superior vehicular fire control, including thermal optics
- o The penetration capability of our munitions

If the Soviets had sold their best ammunition and multi-spectral smoke to Iraq, American capabilities would have been challenged and more American soldiers would have been lost in battle.

Similarly, other foreign tank technology has not lagged. The French LeClerc, the German Leopard II (Step II), the British Challenger II, the Israeli Merkava III and the Japanese Type 90 are new generation tanks comparable to the M1A2 that are now available in the field through FMS. American soldiers could see them advancing toward their positions in some foreign land while still equipped with the current M1A1.³

With the current uncertainty in the Balkans and other former Soviet states, as well as the upgrades going on in the combat systems in the middle East, to believe American soldiers won't be seeing top-of-the-line equipment used against them in the next regional conflict is wishful thinking.

Technology Timeliness

Technology must be timely to make a difference! Tactics and technology work together to drive an Army's effectiveness. Technology impacts all areas of military hardware and tactics, multiplying the effectiveness of our forces. For example, technology assists in intelligence gathering, which leads to tactics providing location and time advantages, giving the American soldier the element of surprise. The Gulf War demonstrated the advantage that technology can provide to the soldier. It also provided clear evidence of the high military losses suffered by an enemy unable to counter technology.

But technology is a perishable commodity. The rate at which technology is developed has increased dramatically over the past decade. Previously, new items stayed new for many years. Today we see computerized design aids bringing products into being at a rate faster than ever before imaginable. Much of the technology introduced today is dominant for only 30 months before the next generation enters the market. This rapid rate of technological change makes it imperative that we maintain sufficient focus in military areas.⁴

New technologies must be in the hands of the soldier early enough for them to use and provide feedback to the trainers, doctrine writers and to the manufacturer. In the case of major systems, such as combat vehicles, it could take up to 5 years to integrate them into a peacetime training program and fielding. This is in addition to the time it takes to develop, test and produce. **Technological superiority by itself does not equate to warfighting superiority.**

To try to integrate technology, the new strategy has a heavy emphasis on advanced technology demonstrators (ATDs).⁵ These ATDs are designed to explore new technologies in seven major thrust areas, one of which is Advanced Land Combat. The demonstrations range from assessing the military utility of new technological concepts in the laboratory to integrating and evaluating technology in as realistic operational environment as

possible.⁶

The ATDs will be focused on validating the maturity and utility of advanced technologies. Those technologies that work out successfully and are proposed for insertion or new programs must be approved by a newly organized panel called the Defense Technology Board (DTB). Their approval will be contingent on the following criteria:

1. The technologies have been demonstrated, thoroughly tested, and shown to be producible.
2. There is a clear and verified military need for the new system or upgrade.
3. The new system or system upgrade is cost effective.⁷

The DTB's approval is the key bridge to get new technology from the laboratory into the hands of the American soldier.

How much time this procedure will add to the fielding of new technologies is open for discussion. A prudent person can plainly see it will not shorten it.

As to the reduction of risk and cost provided by the ATDs, the Assistant Secretary of the Army for Research, Development and Acquisition, Mr. Stephen K. Conver, put it, "Even if it were achievable, a 'zero-risk program' would be prohibitively expensive and our technology would be obsolete before it was fielded."⁸

The ultimate composition of the DTB and how important a role the user (soldier) has in prioritizing and expediting key systems has yet to be demonstrated. I believe a degree of skepticism is justified for how expedient this approach will be.

If we choose to not field a technology, for cost or whatever reason, we put our soldiers in jeopardy - remember Lieutenant Ollie Connor in Task Force Smith. Military missions don't wait for new technology. They continue to unfold and give our soldiers new challenges, with or without new equipment.

There is also a great deal of discussion as to how fast industry can respond. We need only look to the recent past for some of the answers:

"A certain myth surrounds the claim that industry rose to the challenge of Desert Storm and can do so with alacrity the next time they are called upon. Industry did indeed respond, but predominately with commercially manufactured products. Their great successes were chemical suits, meals-ready-to-eat, desert camouflage uniforms and desert boots. Accelerated production of the Patriot PAC II and Army Tactical Missile System (ATACMS) occurred because long-lead-time items had already been ordered and delivered to the plants for assembly. This surge was a fortuitous confluence of events. But no other significant major production surge of major weapon systems took place over the seven-month period. In essence, Desert Storm was a 'come as you are' war fought with existing manpower, equipment and stocks of supplies. It is likely that such will also be the case in future military contingency operations."⁹

The only rapid weapons upgrades we will see in short notice

regional or crisis operations are those where new technologies, i.e. sensors, microchips, etc., can be "plugged into" existing systems. Otherwise, the conflict will be over before new major systems can be introduced.

RECOMMENDATIONS

To keep modern equipment in the hands of the American soldier there are certain key steps that must be taken.

1. The Army must continue to modernize. As it becomes smaller, it becomes even more important to ensure our soldiers have the most modern equipment. The Army plan to utilize current vehicles' chassis as a "family" should only be a stop-gap measure. While the ASM program was considered too expensive to continue, its thrust was in the right direction. The program should be redefined and submitted into the long-range acquisition plan. Continuous upgrades of current systems can be even more expensive per unit and maintain the inefficiencies of old production methods.

2. In order to field timely technology, we must maintain the proper mix of money in procurement versus research and development. In other words, there must be enough money to produce a technology once it's developed or even the expenditure for R & D is suspect and subject to reduction.

We have kept the most modern and technologically superior equipment in the field over the last thirty years by pulling it out of the labs through procurement. While a large defense budget is not available, a prudent ratio is still required. The ratio of procurement to R & D expenditures historically has averaged 2.5 : 1. This includes a low of 2 : 1 in 1975. After Vietnam, when there was an excess of equipment, we made a disproportionately large investment in the development of a new generation of equipment. This investment is reflected in the large procurement ratio of 3.1 : 1 later on in 1985.¹⁰ However, this all changes starting in 1993, when the ratio is 1.5 : 1 and is 1 : 1 by 1997.¹¹ This could mean we do not have sufficient procurement dollars to pull technology out of R & D and into the field. By keeping a reduced, but reasonable ratio we can achieve a reasonable balance between the development and the fielding of new technology.¹²

3. Last, but not least, we must ensure the American soldier is adequately represented on the DTB. This is the bridge between the R & D in the laboratories and the soldiers in the field - it must be a strong one! The board members are the people who must make the decision not to field a technology. I only hope their decision is not solely driven by budget and cost effectiveness.

The soldiers' initial question is as yet unanswered. Will the new strategy provide the best equipment to the field in a timely

manner? We can only hope so. History has shown us what happens when it hasn't. The new acquisition strategy may make sense to the budget analysts who are fighting our current economic war, but it has serious pitfalls. How large these pitfalls are only time will tell. Unfortunately, that time is most critical to those in the field who must make the new technology work. Sensitivity to their concerns will go a long way in ensuring the success of the new strategy.

As we remember what the 5 short years between World War II and the Korean War meant to Task Force Smith, we need to relate it to the course the Army may be forced to take in this period after the U.S. victory in the Cold War and Desert Storm. What we do **not** want, is as Yogi Berra said, "Deja vu all over again!"

1. This vignette is an edited version of a story told in T. R. Ferenbach's book, This Kind of War, The Macmillan Company, New York, 1963, P.100-102. The book is an excellent account of the Korean War and is recommended for more detailed reading.
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