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Who is Responsible For The Joint Acquisition Mess?

Captain
James R. McKenzie
U.S. Navy

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ABSTRACT

TITLE: Who is Responsible for the Joint Acquisition Mess?

PURPOSE: To analyze current trends and provide recommendations to improve the joint acquisition of weapon systems

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INTENDED READERSHIP: Under Secretary of Defense for Acquisition; Chairman of the Joint Chiefs of Staff; Vice-Chairman of the Joint Chiefs of Staff; Service Secretaries; Service Acquisition Executive; Joint Logistic Commander; Program Executive Officers; Service Acquisition commands and students of the defense acquisition process.

BRIEF SUMMARY: This paper examines the actors and their influence on the joint acquisition process. It examines the successes and failure of joint programs in order to make recommendations to improve the system. It reviews the impact of the Goldwater-Nichols DOD Reorganization Act of 1986 and the influence of the JCS and JROC on the acquisition process.

It concludes that joint acquisition requires resource and management control at a highly centralized level outside the influences of services secretaries. It recommends that a purple suit organization within DOD be established for that purpose.

A annotated bibliography of literature involving joint and cooperative programs is provided as an appendix.

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EXECUTIVE SUMMARY

Purpose

This report examines the manner in which the Department of Defense conducts joint service acquisition. It begins with a discussion of the requirement generation process for joint programs. It traces how those requirements are translated into a joint weapon program. Problems associated with joint procurement are discussed. The paper then reviews the impact of the Goldwater-Nichols Reorganization Act of 1986 on joint procurement and provides recommendations for improvements to the joint acquisition process.

Hypothesis

There is a legitimate concern that DOD does not conduct acquisition efficiently. History has shown that DOD has not effectively procured joint weapons. The failure to do so is a result of poor leadership and direction from within the Office of the Secretary of Defense (OSD). Numerous management studies have recommended reforms to the system but, generally, these recommendations have not been implemented. Joint acquisition will become more important as resources shrink and the ability to conduct joint operations (interoperability) is emphasized. OSD defines the acquisition process and manages the system, and ultimately must provide the

leadership for change.

Discussion

There are three distinct reasons that we need to improve joint acquisition of weapon systems. First, joint acquisition is cost effective. Second, it allows the U.S. to downsize yet maintain an adequate industrial base. Third, joint acquisition improves the ability of forces to conduct joint operations.

History shows that acquisition managers have not done well in joint interservice procurement. Congressional desire to improve the system resulted in the Goldwater-Nichols Department of Defense Reorganization Act of 1986. As recently as the FY93 Authorization Act, Congress has attempted to implement reforms by inserting directive language into defense spending bills. Numerous studies have resulted in recommendations for acquisition reform which, in large measure, have not been implemented.

This paper uses historical examples and discussion of the roadblocks to change which must be solved before joint procurement can be successful. Two significant problem areas are identified.

1. There is not an institutionalized process in place that ensures identification and resolution of issues associated with "harmonization" of joint requirements.

2. There is not an institutionalized process, forcing function, that ensures that individual services work toward the goal of joint requirement.

Virtually all the problems of joint acquisition are associated with these two areas. These issues must be resolved before we can expect success in joint procurement. Interservice rivalries, poor leadership by OSD, and Congressional meddling contribute to the failure of joint procurement. Entrenched bureaucracies are also identified as impediments to change. While the momentum for change is building outside DOD, the inertia within remains. It is apparent to me that Congress expects the CJCS, JROC, and OSD to break the deadlock.

Recommendation

The following recommendations were forwarded to implement the change:

1. First, remove the joint program manager from the influence of his service bureaucracy. Institutional bureaucracies of service secretariats provide undo influence over the decision making process. Joint program managers must be allowed to make unbiased decisions. This move would result in the program manager of a joint program working directly for USDA not the service.

2. Second, funding for joint programs should be direct through OSD and not subject to the perturbations of a service budget process. This would stabilize program funding and allow OSD to eliminate duplicate development efforts. It is also a means to compel interservice cooperation.

3. Finally, OSD should review all R&D funding and ensure there is no duplication of effort. A major roadblock for reform of the joint acquisition process is entrenched bureaucracies which desire to maintain the status quo.

CHAPTER ONE

INTRODUCTION

What is best for America?

During a floor speech, in 1992, Senator Sam Nunn used these words to challenge the Department of Defense (DOD) to overhaul its view of roles and missions. "With shrinking budgets, reduced and changing threats and a requirement to fight the battle jointly, we must look for different solutions. We can no longer afford to do business as usual."¹

Implicit in Senator Nunn's challenge is the premise that DOD must streamline operations, consolidate acquisition programs, and, in general, make better use of increasingly scarce resources.

This paper deals with an element of this challenge: joint service acquisition. In particular, it tries to answer the questions: Why do we procure joint systems the way we do? Is there a better way? Who is responsible for making it work?

My premise is that there is a better way to procure joint weapons. I believe that DOD, for a variety of reasons, has failed to provide the most cost effective weapon systems for the resource dollar. In particular, I believe the Office of the Secretary of Defense (OSD)

has failed in its obligation to manage the process and ensure that the services work together. As the executive department responsible for overseeing weapon procurement, OSD has done very little to ensure that suitable joint weapons are fielded. At times it seems interservice rivalries or bureaucratic agendas -- rather than the requirements -- decide what or how we procure weapon systems. My view is that there is not a institutionalized process in place -- that works -- which ensures a DOD coordinated approach to joint weapon procurement.

The examples cited in this paper are from major programs. However, the lessons learned apply just as readily to the thousands of smaller programs conducted solely within individual service departments but which do not face the same scrutiny as major programs. In fact, significant savings would result if OSD conducted an integrated and coordinated approach to research and development (R&D) of these smaller programs as well.

An assumption of this paper is that there are very few requirements that are unique to a single service. Yes, warships are unique to the Navy. But their communication networks, radars, and ammunition need not be.

An Outsiders Perspective

As a Navy attack pilot, working within the acquisition bureaucracy,

I became fascinated in the way the Navy and the Air Force procure their air-to-ground weapon systems. I was particularly interested in why something as simple as general purpose bombs were not compatible between the Air Force and the Navy.

This interest surfaced with what I call the great bomb shortage of the early 1980's. Navy pilots could not get enough live bombs to drop in training exercises because the Navy war reserve stockpiles were below requirements. At the exact same time, in Europe, the Air Force was attempting to reduce stockpiles of their bombs and offered them for Navy use -- free. *The Navy couldn't use them.*

These bombs were not particularly unique. In fact, they would fit on both Air Force and Navy aircraft. On the exterior they were virtually identical. They were in fact designed to strike the same targets. What was the difference? *The explosive fill and exterior coating.*

The Air Force wanted an explosive fill which provided as much explosive potential as they could get. The Navy was willing to accept a lesser degree of explosive potential in order to improve weapon safety on the aircraft carrier. The difference in performance was between 2-5 percent.

Costs associated with building, storing and tracking two virtually identical bombs did not pass my common sense test and provided to

me a simple and vivid example of a failing system.

If the bomb example is a sample of a system that is inefficient and wasteful--and that is my premise--then it does a disservice to both the service member and the taxpayer. Who then is responsible for ensuring we do not waste valuable resources procuring virtually identical bombs?

Numerous arguments are expressed for why we in acquisition develop separate weapon systems for similar functions. They include service unique environments, missions, or operations, but.... to the guy in an aircraft who can't talk to the soldier on the ground because the radio is incompatible, or to the Navy armorer who can't use the same bombs as the Air Force, these rationalizations do not make much sense.² These warfighters rightly blame the problems on the established Washington acquisition bureaucracy.

Why do Joint Service Acquisition?

Certainly this is a question that should be answered before considering whether the United States needs to improve the joint acquisition process. Inherently you might say that it just makes sense -- if only from the perspective of the economies of scale. There are three reasons I believe we should do joint acquisition of weapon systems: 1) cost effectiveness, 2) operational impact, and

3) direct impact on our industrial base.

Cost Effective. Adelman-Augustine suggest a trend which, if left unchecked, will result in the requirement of the entire US GNP to procure a single aircraft.³ They argue that technology and threat increasingly escalate the unit cost of weapons. Given rising development and production costs and the shrinking resources available for each, it is my view that the United States cannot squander resources by allowing parallel development of similar weapons. Joint programs will be the cost effective alternative.

The GAO suggests that there is scarce evidence to indicate that joint acquisition programs show any cost benefits. Their argument states that economies of scale are overstated and the increased costs associated with overlapping requirements, R&D cost creep, and increased management attention of joint programs offset any cost savings.⁴ I would argue that if a single aircraft, missile or tank can meet a harmonized requirement of two or more services, it will be cost effective. I would also suggest that the reason we do not have hard evidence of savings is that we have not had a successful joint program to use as a model. It seems to me that if interservice requirements can be "blended" and a system fielded which is acceptable to each service, the R&D savings alone will be significant.

Operational Impact. In 1984 Army Chief of Staff General John A.

Wicham said, "It is clear that if we go to war, we're going to go joint." That statement is even more pertinent in 1993.

Joint service acquisition directly impacts the ability of the forces to fight together. While we have made significant gains since Grenada in ensuring that acquisition decisions take into consideration interoperability/compatibility, the experience of the desert war showed:

- Airplanes still can't always talk to ground troops
- There is a shortfall of required airlift/sealift
- Incompatibilities of communication systems often require hand delivery of written orders
- Satellite communication is not universal
- Fratricide occurs on the battlefield
- Electrical interference occurs between friendly systems on the battlefield
- Incompatible Air Force/Navy/Marine/Army bombs, missiles and bullets exist

The lessons learned in Grenada and Desert Storm indicate that the ability to conduct joint operations must be an acquisition consideration. Only with a coordinated approach to joint acquisition can we ensure that the equipment we field is interoperable on the battlefield.

Shrinking Industrial Base. The final reason to institutionalize

joint acquisition is to protect our industrial base. The realities of the new world order indicate that the defense industrial base will shrink. Why? There is a declining threat and the force structure will shrink as a result of the reduced threat. The industrial base will, necessity, shrink with the force. Less hardware will be fielded and that hardware will have to meet a broad and more generalized threat. This generalized weapon reduces demand for specialized weapons and results in a demand for even less hardware. The logical way to maintain an industrial base, albeit at lower capacity, is by using joint acquisition to combine programs. This allows industry to maintain capability as well as profitability.

CHAPTER TWO

A HISTORICAL PERSPECTIVE

Ancient History-Prior to 1986

The Goldwater-Nichols Act of 1986 is the dividing line I use to define Ancient History. During this period the designation of a joint program was generally left to the discretion of OSD. However, sensing duplication of effort, an increasingly frustrated Congress began to write language into law (authorization acts) in an attempt to compel OSD to make the services coordinate their efforts.

Several joint programs appeared: Low cost fighter (YF16, YF17; Navy/AF), Advance Fighter Engine (Navy/AF) and Joint Tactical Missile System (JTACM) (AF/Army) are examples. They quickly became service specific --*joint in name only*-- programs due to the lack of support of a single service. There was no incentive for individual services to work together toward a common solution. In reality there was strong motivation not to. "Roles and Missions", laboratory work share, and budget authority, all provided incentive to invent something new. For example, if you were able to "blend" your requirement with a sister service, what would keep that service from usurping your mission in the "roles and missions" debate.

- Even within OSD there were constituencies which favored a particular service or technology and funneled money in that direction. This uncoordinated approach to acquisition resulted in duplication of effort and wasted resources.

Even approved joint programs did not necessarily fare well in the budget battles within the military departments. For example, in the three Navies -- air, surface, and subsurface -- competition for their piece of the budgetary pie directly impacted funding of joint programs. Increased funding in one "Navy" always resulted in adjustments in another -- with joint programs being the first to lose support.

The ultimate result was that the institutionalized bureaucracies within OSD and the military departments almost demanded unique service-specific weapons. This resulted in separate but very similar systems. The F16, F15, F18, and the G.E. and Pratt and Whitney engines to go with them are but a few examples.

Some might say there were successes. Both the F-4 and A-7 aircraft, the Sidewinder missile and the M1 tank could be identified as successful joint programs.

However, a December 1983 GAO report on joint acquisition concluded, "that joint major acquisition systems should save considerable money and that there should be more of them." Why?

The TFX Story. This program is significant because it was the first real attempt to mechanize joint procurement at the OSD level. TFX's failure identified inherent weaknesses of the procurement system which must be resolved before success can be expected.

In 1961 Defense Secretary Robert S. McNamera, determined to cut costs, "ordered" the Navy and the Air Force to jointly develop the TFX. What he got was two unhappy services and a aircraft unsuitable for carrier operations.⁵ I would argue that this was a predictable result given the process and management structure in place at that time. This program was doomed to fail because:

1. AF/Navy requirements were overlaid instead of merged with one another resulting in conflicting, mutually exclusive requirements.
2. Executive service (AF) was allowed to minimize concerns of Navy (weight/size) resulting in aircraft unsuitable for carrier operations; program manager worked to AF requirement not entire program.
3. Navy was allowed to unilaterally withdraw from program.

McNamera and the TFX failed because jointness cannot be mandated. The process has to provide a forum for a good faith debate to identify and resolve the issues. Good faith efforts were not apparent in either the Air Force/ Navy attempt nor in the initial direction of Secretary McNamera.

- The lessons of TFX are just as relevant today as in the 1960's. In order to have a successful joint program what is needed is a well defined requirement, an honest broker program manager, and a strong service commitment.

The historical record prior to 1986 is mixed in judging the success of joint programs. There were a few success and a high visibility failure. We continued to have a thriving bureaucracy in both OSD and service secretaries dedicated to working the system to ensure service uniqueness remained. However, the TFX failure provided the insight into what must change if joint acquisition is to be successful.

1986 and Beyond

Has the time come for joint acquisition? What is different about 1983 and 1993? History will show that the modern age of acquisition began with the Goldwater-Nichols Department of Defense Reorganization Act of 1986. This law is the catalyst which began changes which, I believe, will culminate in a total restructuring of the acquisition infrastructure and culture. Reform of joint acquisition will be part of that culture change. I see three dynamics occurring which will contribute to increased emphasis and visibility of joint programs. Shrinking resources, Congressional interest and JROC oversight responsibilities, and OSD's desire to

bring the acquisition system under control, all combine to provide momentum for a fundamental change in the system.

Shrinking Resources. Whereas the Goldwater Nichols Act was the catalyst for reform, the instrument for change is the shrinking of resources available for R&D and procurement. When there were abundant resources the services could conduct parallel and redundant efforts without much scrutiny. Some work was hidden under subsystem development but many services conducted full parallel system development with DOD approval. A significantly reduced budget will result in far greater scrutiny of how those scarce resources are allocated. This in turn will force OSD to set program priorities and eliminate redundant effort. I believe scarce resources will compel the services to work together when they discover it is in their self interest. There is a fixed amount of money to split between force structure and procurement. Therefore any resources saved by efficient joint procurement can be allocated to operational forces. The warfighters will demand an efficient procurement system.

Growth of Power of JROC and JCS. Goldwater Nichols greatly expanded the role of the JCS.⁶ The JCS and JROC now have a mandated requirement to ensure that (1) requirements are validated, and (2) programs which can fulfill a variety of needs are identified as having "joint potential."⁷ This purple suit involvement of warfighters ensures that the operators have a direct

input into the type of equipment they require to meet a particular threat. The CINC's requirements, not bureaucracies or interservice rivalries, will begin to decide what we buy. Eventually the JROC, as the focal point for the CINC's war fighting needs, will recommend how scarce resources are to be allocated. However, I must add that the JROC views with trepidation any increased JROC role in this allocation process. Yet I believe it must come or...Congress will make those decisions for the JROC and OSD.

OSD and Congressional Interest. Finally there is a change occurring at OSD and within Congress. Congress is no longer willing to allow OSD to be totally responsible for the management of joint programs. In a way OSD has lost creditability to manage the procurement process. In response, OSD is becoming more proactive and attempting to reassert itself as the leader in the process. I believe a more institutionalized joint procurement process will result.⁸

The calculus of the equation has changed -- Goldwater-Nichols, collapse of the Soviet Union (reduced threat), and shrinking resources all combined, and together they and will be the forcing function for reform in the acquisition system. The ultimate outcome of this reform, I believe, will be an increase in the number of joint procurements.

CHAPTER THREE

SO WHAT'S THE PROBLEM?

Can you think of a successful joint program? I can't. The answer to this question usually is the F4 aircraft, M1 tank or sidewinder missile. They were not joint at all. They each were built to one services' specification and then procured by another. Only the various upgrades of the Sidewinder missile had a process in place to resolve some of the interservice requirement issues. However, the result was still service specific Sidewinder missile variants.

Are joint programs doomed to fail? My answer to this question is yes....unless we learn the lessons of the TFX.

Those lessons were:

1. Requirements were overlaid, not harmonized
2. Program manager optimized the aircraft to meet Air Force requirements, but not the overall program
3. A participating service was allowed unilateral withdrawal

There was no institutionalized process in place that allowed for the management/leadership of the complex bureaucracies associated with a joint program. The solution to the problem is that someone must be provided with an element of power to act as a forcing function to ensure that services work together. Even more important, however, is that an honest broker/decision-maker be

empowered to resolve issues and make program decisions based upon what is best for the program and not an individual service.

Today's programs have similar problems. The V-22 is a case in point where differences in requirements (range for the Marines and payload for the Army) could not be resolved. This contributed to the Army's withdrawal from the program.

The question is not whether the Army's decision was right. It very well might have been. The question is: Was a forum provided to adequately debate of all sides of the issues including dollar impact to the program if the Army withdrew? Another interesting question to ask is: Who had the power to tell the Army they couldn't withdraw from the program?

The requirement trade-off decisions should rest with program managers. They, however, must make decisions based on the total program, not their own service's piece of it. In the case of the V-22, was the program manager, an Marine officer, an honest broker? I can't say for certain, but I can say that given his reporting and evaluation chain of command he was much more inclined to do what he could to please the Marines than the Army.

And who can tell the Army no? In this case it can't be the program manager because he is outside the Army command structure. It must be someone with the power to direct the Army -- OSD.

So what's the problem? Who can fix it? Who is responsible for the joint acquisition mess? Who do the players ostensibly work for? Who has the ability to hire and fire, and control resources? Not the program manager. Not the PEO or SAE. Not even USA(A). Where does the responsibility and accountability to make the system work rest?

I believe the answers to each of the above questions is OSD. The current joint procurement system is clearly not working. Only OSD can make the corrections necessary to make it work. If we are to have successful joint programs OSD must institutionalize a process which allows for informed management and adequate funding. I don't believe you can expect the services to be altruistic and see the common good. As long as services are allowed to fund and conduct R&D in conflict with OSD goals you will continue to have service specific weapon system development.

CHAPTER FOUR

OUTLINE FOR SUCCESS

To solve the joint acquisition mess you must understand the stakeholders and their influence on the current system. The acquisition infrastructure and culture can then be adjusted to create a more productive system. The actors a program manager deals with daily are Congress, OSD, individual service secretariats and the bureaucracies and agendas which go along with each. These actors have significant influence on the success of a joint program. At times this influence translates to furthering of agendas as much as success of a particular program. Each of these actors can be a roadblock to success. To ensure success of a joint program these roadblocks must be identified and eliminated.

Roadblocks

Interservice rivalries. Interservice rivalries are blamed for the failure of many joint programs. For a variety of reasons services are reluctant to compromise what they view as valid hard requirements in order to be joint. This lack of compromise results in similar but service-unique hardware. It has been argued that, *The Major reason for the high defense budget can be directly*

attributed to a bureaucratic system which allows each military service to pursue its own self-interests in the areas of weapons systems development and acquisition. The result is a process where duplication of efforts and the procurement of a multitude of peculiar defense systems are commonplace.'

The civilian bureaucracies within service branches have a major stake in service unique development. Their agenda is to maintain the status quo. Any DOD attempts to combine programs efficiently will threaten jobs, status and power.

A good example of an entrenched civilian bureaucracy is the laboratory system. The not invented here syndrome results in duplication of effort if not duplication of products. For example, China Lake (Navy) and Eglin (AF) are pursuing similar but incompatible I2R seeker technology. They are pursuing parallel development for other weapons as well. There must be a method to efficiently coordinate these developments in order to eliminate duplication of effort.

On the positive side, interservice rivalries ensure a full and open debate of all relevant issues. While I am sure each service presents its parochial view in this debate, the debate allows the decision maker to obtain the information necessary to make an informed decision.

The current roles and mission debate is a case in point. Let me take the case of the deep interdiction target. The Air Force has to defend why they need the B-2. The Navy needs to defend why they need aircraft carriers and a new aircraft (AX) to do the same mission. And both services need to defend why cruise missiles wouldn't be just as good. This debate is healthy. It is good whether we learn we need one weapon, a combination, or all three. What's important is that the playing field is level and an informed decision can be made. Scarce resources demand it. So while interservice rivalries can be a roadblock it can also be used as a tool for informed decision making.

Congress. With oversight responsibility, Congress rightly plays a strong role in the calculus of joint procurement. Why then do I say they are a roadblock? The politicizing of the procurement process has resulted in Congress making technical and program management decisions by legislation. They are neither staffed nor technically qualified to make those decisions. There are degrees of jointness which cannot be legislated.

The TFX failure is a case in point. McNamera attempted to legislate a joint "one aircraft does all missions" aircraft. The Air Force requirement for a supersonic deep interdiction airframe was incompatible with the Navy's desire for a smaller fleet defense missile shooter. This is not to say that many subsystems such as engines, missiles, avionics, etc., should not be developed jointly.

The challenge is to mechanize and institutionalize the process so we are able to do what makes sense. You can't be naive and expect politics not to enter the equation, however, the most informed and cost effective decisions must be made by the program manager--not Congress. Congress must resist and be resisted in any attempt at direct program management.

To overcome Congressional frustration with the military procurement process OSD must return creditability to the system. Only then will they be able to resist Congressional incursion into their areas of responsibility.

OSD. OSD a roadblock? Within OSD the failure comes more from omission than commission. They are responsible for making the system work but have not had the wherewithal to do so. OSD has attempted for years to bridge the interservice rivalry problem and combine programs which meet significantly similar threats. The establishment of Joint Air-to-Air Program Office is an example, although Congressional push was very strong (read directive). Yet until very recently the Navy and Air Force were working on different long range air-to-air missiles and were funded to do so. Some wags have asserted that Joint Air-to-Air Office is a facade to appease Congress and the real work continues to be done within individual services. There is no joint Air-to-Ground office. Why?

The services don't think they need one.

Until OSD demonstrates its serious intent to develop joint weapons and forces the system to respond, they will continue to be frustrated by the entrenched bureaucracies' desire to maintain the status quo.

OSD also provides a roadblock to success by making major joint decisions late in the program approval cycle. This leaves the program manager the option of: (1) delaying the program to refine and harmonize requirements, or (2) obtaining minimal joint commitment in order to move the program forward.

Due to a strong bias to keep a program moving forward, a program manager is likely to attempt to expedite a joint agreement. In my experience this has almost always resulted in a *joint-in-name-only* program.

Let me provide an example. I once worked on a program where the DAB decision memorandum at Milestone II told the Navy not to proceed with the program until they were joint with the Air Force. When a Program Manager comes to a DAB requesting the Milestone II decision he believes that he is ready to proceed to engineering and manufacturing development (E&MD) -- transition to production. A significant allocation of the original requirement has occurred and in reality the contractor is preparing to produce the design on a

factory floor. At this stage, any reallocation of requirement caused by insertion of a *new joint requirement* usually results in **significant design changes** and the inherent cost/schedule impacts.

In my example, the program manager, within the space of a month, obtained a joint agreement with the Air Force. The Air Force agreed to use the Navy missile if *appropriate* and the Navy agreed to use a Air Force seeker if *appropriate*. In my view this was a marriage of convenience. I believe the program will remain joint *in name only* because the weapon has neither the diameter or volume required to support the "joint seeker". Milestone II is too late in the program to make that type of decision. The time to define requirements is early in the life of a program when the cost penalty of change is minimal.

In this case OSD's direction to the Navy highlights another significant flaw in the current process. OSD initially did not provide direction for the Air Force to work with the Navy and an incentive -- such as withholding money for similar programs -- to do so. The Air Force had absolutely no incentive to work with the Navy. In fact, since this weapon competed with one they were working on, there was a strong desire to have the Navy program fail.

OSD's roadblock then is that while they are responsible for making

the process work they are not willing to take ownership to ensure that it does.

Roadmap

The acquisition process is very defined and formalized to the extent that you could make a case that it should work. I submit that joint programs will not be successful until structural changes are made to the process. A roadmap for this success is easy to outline. Numerous studies from the Packard Commission to the GAO have made some constructive recommendations that for the most part have failed to be implemented.^{10 11} We only have to look to the lessons of the TFX. To have a successful joint program you must have a institutionalized process which implements or addresses the following items:

First: The first step is to identify joint potential early. We are well on the way to doing this. The JROC charter specifically requires a joint recommendation during the MNS review and each subsequent DAB review.¹² The key word is *potential*. An enlightened debate is required to convert that *potential joint requirement* into a specific joint program.

Second: Agreement on a well defined requirement. Requirements cannot be overlaid but must be harmonized. Issues need to be

surfaced and resolved. This process requires an honest broker/decision maker to resolve conflicts. A key assumption is that not all requirements can be met jointly. In other words some valid requirements may be mutually exclusive, e.g. large and lightweight aircraft. Efficiency, not 100 percent compatibility, is the goal of joint procurement.

The definition of the requirement early on is critical to the success of any program, but particularly a joint program. Early resolution also allows service-unique development to begin.

We are improving in this area as well. Requirements are defined in response to a particular threat. Threat analysis is not only getting better but COEA's are becoming more standardized and less service specific. There is now a core purple suit organization that provides an independent COEA. This institutionalizes the process within DOD. In the past, individual services essentially conducted their own COEA's with little supervision, and parameters such as payload, range, warhead size and accuracy were allowed to vary based on the system being sold by a particular service. Now, assumptions made for a particular threat are consistent throughout an analysis and among weapons.

Increasingly the analysis of COEA's are based on a system's response to a particular threat and an apples-to-apples comparison. For instance, to compare any new cruise missile against SLAM

requires side by side comparison against the threat. Because of the purple suit COEA organization, SLAM's capability/vulnerability against a particular threat will remain the same whether it is being compared to a cruise missile, a glide bomb, or an aircraft with bombs. This was not always the case. In recent past history the SLAM's capability/vulnerability would either be raised or lowered, by changing assumptions, depending on the point you were trying to make. With consistent assumptions there is now the opportunity for a fair, side-by-side comparison.

Third: Empowered informed decision maker. The first step for a successful joint program is a well defined joint requirement. On joint programs conflicting requirements need to be harmonized as much as possible. To gain that agreement there must be an element of power given to someone who can make a decision and have it stick. That should be the program manager. We must allow program manager autonomy and make him responsible/accountable for key trade-off decisions of his program. OSD needs to provide the program manager with a climate which allows decisions to be made without undo outside influence.

Fourth: Fund to ensure program success. Joint programs are inherently more complicated, generally influenced by more actors, and more vulnerable to fiscal perturbations. Again, there will be an improvement in this area since Congressional language in the 1993 authorization act require JROC to approve, and USD(A) to

require a resigning service to continue funding in an *efficient* manner. The law requires OSD and JROC impact statements as well.¹³ Some of the Congressional language may be fuzzy but there is no mistaking its intent. Congress wants joint programs -- not symbolic ones. OSD must insert themselves into the process to ensure that a service cannot kill a joint program by lack of fiscal support.

Fifth: Insist on joint ownership. If a service is not committed to a program there is neither ownership or leverage for change. Resource commitments in terms of personnel, dollars or equipment must be made. Finally, parallel development efforts even at subsystem level cannot be tolerated except in support of service-unique requirements.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

I think the conclusion to be drawn from this paper is obvious -- joint acquisition of weapon systems is clearly not working. I have shown why joint acquisition is important, lessons we have learned from failure both past and present, and what I would consider a blueprint for successful reform. My conclusions and recommendations are not new. In fact I believe we have learned very little that is new since the TFX failure. Those recommendations are as good today as they were in 1968. What we have not done is implement a plan to institutionalize joint procurement. OSD is responsible for that reform and until they make it the system will muddle along. Momentum is building and change will be the result. The question is, will OSD lead the charge?

Winds of Change

Resources are shrinking. Where the United States might have had the ability once to fund similar programs, such as F18's for the Navy and F16's for the Air Force, there will not be that option in the future. World realities will drive the United States procurement budget down. The same will happen in Europe, Russia, China and elsewhere. Only by changing our acquisition culture will we be able to efficiently utilize increasingly scarce resources.

This culture change requires the services to work together to combine programs, research, and maybe even personnel to stretch the available dollars. We might even coordinate our effort with our Allies. We must learn to work within this changing environment.

Numerous commissions, panels, critics and students have studied the problem and made similar recommendations to change the culture, yet very little has changed. Why is that? I would submit that entrenched bureaucracies, which are required to identify and implement change, are the one most harmed by its results. It is not in their self interest to make such changes. Why should the National Laboratory system coordinate their effort and eliminate duplication of effort if fifty percent of their jobs will be lost?

I think shrinking resources will force the answer to the extent that entrenched bureaucracies will not be able to hide the inherent inefficiencies of our present system. For example as the procurement budget shrinks in the draw down it will soon become obvious that we don't need four separate acquisition organizations: OSD, Navy, Army, Air Force. As a warfighter, wouldn't you rather eliminate the overhead associated with four redundant procurement organizations? This would enable you to buy an extra carrier or three B-2's or 25,000 soldiers. Change does not come easily but it will come -- a result of resource constraints.

The question then becomes-- How do we make the most efficient use of those scarce resources? I believe, and I think Congress believes, a critical element is joint procurement.

The premise of this paper has been that the joint procurement of weapon systems makes sense both from an economic and warfighting point of view. I believe that we as acquisition managers have failed in this challenge, and the fault must be shared by the individual services and, ultimately, by the Office of the Secretary of Defense. We have failed, not because of technical challenges or resource constraints, but due solely to the bureaucracy associated with procurement.

This failure of the system to function must be borne by OSD. They define the system, run the system and ultimately are the only ones that can overhaul the system. The failure is not that of the individual service departments. The failure is in OSD's ability to get their own organizational house in order and to function in a coherent and coordinated fashion. The individual services are only part of that organization.

Recommendations

Joint acquisition is a function of the interaction of multiple bureaucracies. To change and I think improve the system we must change the way those bureaucracies interact -- or eliminate them.

I have depicted a system where the various agendas of the actors ensure complicated and manipulative approaches, and promise a nightmare for the one held responsible--the program manager. We need to allow the program manager to be the director of the bureaucracy, not at its mercy.

To get started, without making wholesale changes to the system currently in place, we can begin the transition to efficient joint procurement by implementing the following suggestions:

1. We must isolate the program manager from both his institution and his sister service.

Rationale: A joint program manager must have the ability to trade off the requirements of his own service against another. He can't be the honest broker and decision maker if he remains established in his service institution. The implementation of this recommendation requires a purple suit program manager working directly for USD(A). I would recommend he report through a PEO, but not the SAE.

2. I would suggest that OSD allocate resources through USD(A) and PEO directly to joint program offices.

Rationale: First this provides a stabilized funding flow that is not subject to interdepartmental disputes. It allows OSD through USD(A) to control parallel development of similar major programs. Second, this funding method provides OSD with the lever to compel

interservice cooperation. This recommendation could be implemented without the program manager being removed from his service institution.

3. My final recommendation would be for OSD to review the way all R&D dollars are allocated and eliminate duplication of efforts.

Rationale: One roadblock for joint programs is the agendas of the entrenched bureaucracies within the R&D community. The not invented here syndrome applies and has resulted in duplication or redundant development effort. I think there is little doubt that we have an overcapacity in the R&D community. By necessity, shrinking resources should force this overcapacity out of the market place and result in elimination of duplicative efforts.

These recommendations are not new. Several were contained in the President's Private Sector Survey on Cost Control, also known as the Grace Commission.¹⁴ Due to the radical change expected in the size of the defense establishment there is now a window of opportunity to implement changes to streamline the defense acquisition process.

If I could return to Senator Nunn's original Challenge:

The question is what is best for America?

His challenge to us -- the Department of Defense -- came not just from a desire to save dollars by eliminating waste but also because

of a desire to ensure that the Armed Forces of the United States were totally integrated as a fighting unit, prepared to fight and win together. Until we develop bombs that work on Navy and Air Force airplanes, or have the Army talk to the Navy, we have failed that challenge. The final irony is that as we get smaller we may actually get better as a fighting force.

ENDNOTES

1. Floor Speech by Senator Sam Nunn, *The Defense Department Must Thoroughly Overhaul The Services Roles And Missions*, July 2, 1992
2. James Dickenson, *Can't the Army Talk to the Navy?* Washington Post, Oct 13, 1985:A12.
3. Adelman, Kenneth and Augustine, Norman. *The Defense Revolution*. Institute for Contemporary Studies; San Francisco, California. 1990.
4. Morrison, David. *Joint Acquisition of Major Weapons Likely to Remain an Elusive Strategy*. National Journal: The weekly on politics and government. January 1986.
5. Morrison, David. *Joint Acquisition of Major Weapons Likely to Remain an Elusive Strategy*. National Journal: The weekly on politics and government. January 1986.
6. Public Law 99-433, Goldwater-Nichols Department of Defense Reorganization Act of 1986, 1 October 1986.
7. Public Law 99-433, Goldwater-Nichols Department of Defense Reorganization Act of 1986, 1 October 1986.
8. United States. *National Defense Authorization Act for Fiscal Year 1993*. Conference Report 102-966. U. S. Government Printing Office. Washington D. C. 1992.
9. *An Alternative to Reduce Defense Spending*, Government Executive, April 1984, p.38
10. President's Blue Ribbon Commission on Defense Management, *A report to the President on Defense Acquisition*: 1-45.
11. U.S. President's Private Sector Survey on Cost Control, *Report on the Office of the Secretary of Defense* (Washington, DC: Government Printing Office, September 15, 1984), p143.
12. Joint Requirement Oversight Council. *JROC Administration Instruction*. JROC Secretariat Washington D.C., 1992.
13. United States. *National Defense Authorization Act for Fiscal Year 1993*. Conference Report 102-966. U. S. Government Printing Office. Washington D. C. 1992.
14. U.S. President's Private Sector Survey on Cost Control, *Report on the Office of the Secretary of Defense* (Washington, DC: Government Printing Office, September 15, 1984), p143.

TABLE OF ACRONYMS

COEA.....	Cost and Effectiveness Analysis
DAB.....	Defense Acquisition Board
JDAM.....	Joint Direct Attack Monition
JSOW.....	Joint Stand-Off Weapon
JCS.....	Joint Chief of Staff
JROC.....	Joint Requirements Oversight Council
SLAM.....	Standoff Land Attack Missile
GAO.....	Government Accounting Office
I2R.....	Imaging Infrared
R&D.....	Research and Development
USD (A)	Under Secretary of Defense Acquisition

BIBLIOGRAPHY

This annotated bibliography provides a summary of the literature dealing with weapon procurement either between services (joint) or within the NATO umbrella (cooperative). In many cases the literature may discuss larger procurement issues, however, the summaries are focused on joint or cooperative procurement. There is very little published literature dealing with joint procurement. Therefore, most of the surveyed literature is from Congressional hearings and a few periodicals.

The direction for joint procurement has come from Congress as a cost savings measure. While it has been Congress's intention to force services to work together there has not been much success. I think as a result of the Goldwater-Nichols Act of 1986 and the resulting increased power of the Joint Chiefs of Staff the door is at least opening to cooperation.

The primary focus for cooperative NATO programs is the desire to promote standardization and interoperability of weapons. This effort has been undertaken primarily as an effort of collective security and is part of the United States national security strategy. This effort has had minor successes primarily in work share agreements for major aircraft buys. There also have been European weapons, such as the Penguin anti-surface missile being fielded by the US. With the sweeping changes in Europe and the reassessment of the NATO alliances, the issue is again important because of reduced defense expenditures and technological superiority.

There are, however, significant similarities and issues for resolution between joint and cooperative procedures. Lessons learned from one can apply to another.

Bleau, Richard; Newill, Curtis; Prokuski, Bronislaw. *Joint Acquisition Programs: Improving the Process*. Industrial College of the Armed Forces, 1985.

This paper was written outlining the joint acquisition process in place in 1984 -- prior to the Goldwater-Nichols Act. It describes initiatives taken to improve the process, but fundamentally still outlines a system which is not working. It discusses the important role the establishment of the Joint Requirements and Management Board had in providing a framework for procurement which past studies had identified as critical. In reality this is the JROC organization without the teeth given it by the Goldwater-Nichols Act. It describes the process as generally ad hoc, with no common approach and makes several recommendations in improving requirement identification and management oversight. It describes a system which management understands needs, and is taking gradual steps, to change. But it has not made the leap necessary to change the culture in order to make the system work.

Bray, Frank and Michael Moodie. *Defense Technology and the Atlantic alliance: Competition or collaboration?*. Institute for Foreign Policy Analysis, Inc. Cambridge Massachusetts, 1977.

This paper directs attention- at the political aspects of procurement within the NATO alliance. Its premise is that technology is the force that has enabled the Alliance to meet its twin requirements of defense and deterrence since WWII. It points out the dilemma we face as countries rebuild, and attempt to continue to build, scientific and technological establishments of their own. It points out that disputes in procurement are as important to NATO as disputes involving such areas as troop levels. In my view the paper was prophetic in that the issues raised in terms of the strength of the overall NATO alliance are the issues the Alliance is facing today. It states that collaborative weapons research, development, and production offers the potential for cutting defense cost in what has become a era of defense austerity. The importance of the paper is an attempt to address the political pitfalls associated with collaboration. From this effort we should be able to work within the system to resolve the issues.

Joint Requirement Oversight Council. *JROC Administration Instruction.* JROC Secretariat Washington D.C., 1992.

This instruction is intended to provide, in one location, procedures of the JROC, how to staff the mission need statement required by DOD 5000 series instruction, and define the role of the JROC in the process. Of particular importance is the charter of the JROC found in Enclosure C of the document. In the mission statement of that charter is found the following statements regarding the role of the JROC in joint procurement:

1. Identify, evaluate, and designate potential candidates for joint acquisition programs.
2. Resolve cross-service requirements issues.
3. In each of its reviews, place emphasis on ensuring interoperability, pursuing opportunities for joint or multi-service application, eliminating unnecessary duplication in programs, and promoting economies of scale.
4. Assign a joint priority among major programs that meets valid requirements identified by the CINC's, Services, and others.

From this charter, signed by Donald Atwood, it is apparent that the JROC assumes a large role in any acquisition area. From my perspective, it provides the power to make the services work together.

Lyman, Charles. *FAILURE TO COMMUNICATE. Problems Of Interoperability Between The Services.* The Industrial College of the Armed Forces, 1987.

This paper discusses the problems of tactical communications as it relates to interoperability of the services. The premise of the paper is that the reasons some communications are not interoperable is that individual services do not give the required priority to joint matters. He gives the example that there are at least 50 interoperability problems in communications which have been raised in various fora but which seem only of concern to the JCS. They are not getting the corresponding emphasis at the service level. He further argues that it is the acquisition communities' responsibility to insure interoperability. Implicit in this argument is that the acquisition community has failed in this responsibility. The author concludes by recommending "centralizing control over procurement and by strengthening the role in the acquisition process of the CJCS." This recommendation includes fiscal control at the JCS level.

McNaugher, Thomas L. *Defense Management reform: for better or for worse?* Washington, D. C. Brookings Institution, 1990.

The focus of Mr. McNaugher's article is on acquisition reform across all aspects of the process. He makes a case that by creating a USD(A) with a charter to manage acquisition merely increased the possibility of institutional and personal conflict. He states that this is the "antithesis" of consolidating power. He notes the reform that brought the Joint Chiefs of Staff (JCS) into the acquisition process, with very strong support on Capitol Hill. Again, McNaugher makes the argument that on the surface this looks logical, but he makes the case that the current process lacks either the war fighters or cross-service perspective. His argument included an assessment that the JCS currently does not have the staff to adequately perform this function.

Morrison, David. *Joint Acquisition of Major Weapons Likely to Remain an Elusive Strategy.* National Journal: The weekly on politics and government. January 1986.

This periodical provides a brief historical perspective of where we are in terms of joint procurement up to 1986. It discusses limited successes and goes into some of the issues that need to be resolved. The major lesson cited is that there is a need to have an agreement on requirements prior to beginning any program. It also cites why this was not done from the TFX to the V-22. The article also gives the reasons the services tend to go their own way. The primary reason is that, "joint programs tend to be more trouble than non-joint." The failures that come about when two or more services are over-managing programs are also discussed. Interestingly enough, the article is unable to find any instances where a joint program has resulted in cost savings. Although the article is slightly dated (before Goldwater-Nichols), I believe it provides good, basic understanding of the complexities of the process.

The Final Report of the CSIS Atlantic Partnership Steering Committee/ co-chairs, Sydney Gillibrand, Gerald A. Johnston; project director, Robin Niblett. *The Atlantic Partnership: A Industrial Perspective on Transatlantic Defense Cooperation.* The Center for Strategic & International Studies (CSIS). Washington, D.C, 1991.

This panel report is directed at the issue of cooperative procurement. It makes a strong case for coordinating the procurement between the United States and Europe. The report also recommends a plan of action to coordinate the Heads of Government. In a section titled *Old Premises and New Realities*, the pros and cons of cooperative (joint) procurement are discussed. For example the common arguments against joint efforts, such as maintaining a technology base, are viewed from each side of the issue. The report's final chapter is titled, *Criteria for Success*. It provides a framework to help get the process started. Discussions of definition of requirements, agreements on technology transfer to market environments, this blueprint for action would provide a basis for political discussion. One lightly-discussed but critical aspect is how to execute this strategic frame in the political arena. The report leaves this up to the politicians.

United States Army Materiel Development and Readiness Command. *Foreign Acquisition Programs: Technology, Weapons, and Equipment.* Deputy for Commanding General for material development, Alexandria, VA, 1979.

Although a bit outdated, this publication attempts to provide a handbook to aid in the management of cooperative procurement. Unfortunately it is also evident that the issues which existed in 1979 regarding this type of procurement remain to be resolved today. The publication makes a few recommendations in avoiding pitfalls. With other documents it could be used as a high level check-off list prior to initiation of an cooperative or joint program. For example there is a section on the need to establish requirements, program baselines, and funding agreements prior to execution of contracts.

United States. Congress. House. Committee on Armed Services. Full committee consideration of H. R. 3622, to amend Title 10, United States Code, to strengthen the position of Chairman of the Joint Chief of Staff, to provide for more efficient and effective operation of the armed forces, and for other purposes: hearing before the Committee on Armed Services, House of Representatives, Ninety-ninth Congress, first session, October 29, 1985. Washington: U.S. G.P.O. 1987

Hearings before the House Armed Services Committee, to provide a strengthened Joint Chiefs of Staffs. The bill became known as the Goldwater-Nichols Act. Significant in this testimony is the statement that the act is intended to increase the JCS role in the allocation of resources to buy guns, tanks, airplanes, etc. Honorable Bill Nichols.

United States. Dept. of Defense. Office of the Secretary of Defense. Defense management: report to the President/ by Secretary of Defense Dick Cheney. Dept. of Defense. Washington D.C., 1989.

The primary purpose of this report was to review the way the Department of Defense had responded to the management reforms primarily called out in the Goldwater-Nichols Act. It focuses primarily on the acquisition area. The reason it is important in the joint acquisition arena is that it describes what the DOD thinks the role of the JROC should be. The report clearly states that the JROC will articulate the military needs and performance requirements at all milestones. In the calculus of that decision-making, the report states that the Goldwater-Nichols Act intended the JROC and USD(A) to share the responsibility in monitoring the cost, schedule performance of programs. The JROC's position is defined: "based on inputs from the CINC's, Services and elsewhere, the JROC will review the validity of an identified mission need..., assign a joint priority for meeting the need...." This statement has been interpreted by some as stating that the JROC should be responsible for priorities allocation of resources.

United States. General Accounting Office. *DOD acquisition; information on joint major programs: report to the Honorable Larry J. Hopkins, U. S. House of Representatives.* Washington, D.C.: The Office, 1989.

This document provides an FY88 GAO view of thirty-four major joint programs. It specifically discusses the status of joint major programs, defined by DOD as having \$200M in R&D funding or \$1B in procurement, addresses the administrative tie between services (MOU's, MOA's, etc.), and evaluates the role of the Office of the Secretary of Defense (OSD) joint efforts. The study questioned, "Why joint?" Two interesting conclusions resulted from report: (1) MOA'S are not required for joint program but even when they are used they do not provide dis-incentive to discourage participating services from abrogating the agreement; (2) Recommends that OSD role not be strengthened.

United States. General Accounting Office. *Acquisition reform: military departments' response to the Reorganization Act: report to the chairman, Subcommittee on Investigations, Committee on Armed Services, House of Representatives.* Washington, D. C. : The Office, 1989.

GAO review of the services' response to the Goldwater-Nichols Department of Defense Reorganization Act of 1986. The study is focused on the manner in which the department responded to the act to strengthened civilian control over the acquisition process as well as reduce layering and duplication within the headquarters. It talks about the manner in which the Army, Air Force, and Navy reorganized in response to the law. The report provides recommendations for how the services can bring their organization into compliance with the law. No DOD response is given because the presidential directed defense management review was not complete.

United States. *National Defense Authorization Act for Fiscal Year 1993. Conference Report 102-966.* U. S. Government Printing Office. Washington D. C. 1992.

Of particular importance in the joint acquisition area is section 820 under the title of "Regulations relating to substantial changes in the participation of a military department in a joint acquisition program." I believe in an attempt to stabilize joint programs -- approved by the Defense Acquisition Board-- section 820 makes two very powerful changes to the law. First it requires the USD(A) to require a military department that withdraws from a program to continue funding. The second element requires the JROC to review and report the on impact of a services's withdrawal against the original requirement.

Ward, Marshal. *Is Our Acquisition Process Responsive To Our Joint Warfighting Needs?*. Industrial College of the Armed Forces, 1988.

This paper attempts to assess the impact of the Goldwater-Nichols Act of 1986 on acquisition in an attempt to provide weapons which are interoperable. Its focus is on the early stages of a program, "where the requirements translate into programs." The paper's premise is that defense acquisition programs are not as responsive to our warfighting needs as they should be. It reviews the provisions of the JROC charter and Goldwater-Nichols Act to conclude that since there is no single organization in DOD to manage the requirement process it should be JCS. The author further recommends that all new starts receive scrutiny for joint capability, and that the CINC's participate in the budgetary decisions. This, he argues, will allow the warfighters input in the acquisition over the individual service initiatives. A final implementing recommendation is to have all services validate and participate in concept exploration and, if necessary, delay Milestone I decisions to do so.

Webb, Simon. *NATO and 1992: Defense Acquisition and Free Markets/ Simon Webb*. The Rand Corporation. Santa Monica, CA, 1989.

The basic premise of this work is that the time has come to let "free market" forces within the NATO alliance drive defense procurement. The author provides the historic prospective of why we do the things we do. He then provides a brief summary of the current state of cooperative procurement within the NATO alliance. The author cites the benefit of cooperative improvement in terms of war fighting using examples of standardization and interoperability. He then goes into the benefits of procurement in a free market, such as pooling of resources for research and development. The author does discuss the reasons some countries desire to procure weapon systems domestically. In the summary the author states why he thinks cooperative procurement will work even in a political arena.