

Acquisition Reform for the Future: A Return to Programmatic Efficiency

by

Colonel Francisco Lozano
United States Army

Under the Direction of:
Mr. Frederick J. Gellert



United States Army War College
Class of 2017

DISTRIBUTION STATEMENT: A

Approved for Public Release
Distribution is Unlimited

The views expressed herein are those of the author(s) and do not necessarily reflect the official policy or position of the Department of the Army, Department of Defense, or the U.S. Government. The U.S. Army War College is accredited by the Commission on Higher Education of the Middle States Association of Colleges and Schools, an institutional accrediting agency recognized by the U.S. Secretary of Education and the Council for Higher Education Accreditation.

REPORT DOCUMENTATION PAGE			Form Approved--OMB No. 0704-0188		
The public reporting burden for this collection of information is estimated to average 1 hour per response, including the time for reviewing instructions, searching existing data sources, gathering and maintaining the data needed, and completing and reviewing the collection of information. Send comments regarding this burden estimate or any other aspect of this collection of information, including suggestions for reducing the burden, to Department of Defense, Washington Headquarters Services, Directorate for Information Operations and Reports (0704-0188), 1215 Jefferson Davis Highway, Suite 1204, Arlington, VA 22202-4302. Respondents should be aware that notwithstanding any other provision of law, no person shall be subject to any penalty for failing to comply with a collection of information if it does not display a currently valid OMB control number. PLEASE DO NOT RETURN YOUR FORM TO THE ABOVE ADDRESS.					
1. REPORT DATE (DD-MM-YYYY) 01-04-2017		2. REPORT TYPE STRATEGY RESEARCH PROJECT		3. DATES COVERED (From - To)	
4. TITLE AND SUBTITLE Acquisition Reform for the Future: A Return to Programmatic Efficiency			5a. CONTRACT NUMBER		
			5b. GRANT NUMBER		
			5c. PROGRAM ELEMENT NUMBER		
6. AUTHOR(S) Colonel Francisco Lozano United States Army			5d. PROJECT NUMBER		
			5e. TASK NUMBER		
			5f. WORK UNIT NUMBER		
7. PERFORMING ORGANIZATION NAME(S) AND ADDRESS(ES) Mr. Frederick J. Gellert			8. PERFORMING ORGANIZATION REPORT NUMBER		
9. SPONSORING/MONITORING AGENCY NAME(S) AND ADDRESS(ES) U.S. Army War College, 122 Forbes Avenue, Carlisle, PA 17013			10. SPONSOR/MONITOR'S ACRONYM(S)		
			11. SPONSOR/MONITOR'S REPORT NUMBER(S)		
12. DISTRIBUTION / AVAILABILITY STATEMENT Distribution A: Approved for Public Release. Distribution is Unlimited. To the best of my knowledge this CRP accurately depicts USG and/or DoD policy & contains no classified information or aggregation of information that poses an operations security risk. Author: <input checked="" type="checkbox"/> Mentor: <input checked="" type="checkbox"/>					
13. SUPPLEMENTARY NOTES Word Count: 6297					
14. ABSTRACT After 30 years of legislated acquisition reform, the defense acquisition system has become lethargic and ineffective in its ability to deliver needed capability to the United States Department of Defense. Much of the governing legislation was rooted in well-intentioned and necessary changes to improve DoD acquisition outcomes. Yet, during implementation of the statutes the resultant size of the defense acquisition bureaucracy and its associated processes stunted the ability for successful outcomes. As a result, DoD acquisition programs grew in cost, schedule, and did not meet performance expectations, which led to their termination. After examining legislation, beginning with the 1985 Packard Commission to the most recent National Defense Authorization Act for 2017 this paper makes several recommendations to reverse the trend of unsuccessful programs. First, legislatively reduce the number of offices at the OSD level providing oversight on acquisition programs. Second, restructure the Acquisition Category (ACAT) levels to minimize those programs requiring OSD oversight. Finally, grant Milestone Decision Authorities greater authority to approve milestone decisions when systems meet only 80% of their threshold capabilities.					
15. SUBJECT TERMS Program Manager, Program Cost, Schedule, Weapon System Performance, MDA, ACAT					
16. SECURITY CLASSIFICATION OF:			17. LIMITATION OF ABSTRACT	18. NUMBER OF PAGES 32	19a. NAME OF RESPONSIBLE PERSON
a. REPORT UU	b. ABSTRACT UU	c. THIS PAGE UU			19b. TELEPHONE NUMBER (w/ area code)

Acquisition Reform for the Future: A Return to Programmatic Efficiency

(6297 words)

Abstract

After 30 years of legislated acquisition reform, the defense acquisition system has become lethargic and ineffective in its ability to deliver needed capability to the United States Department of Defense. Much of the governing legislation was rooted in well-intentioned and necessary changes to improve DoD acquisition outcomes. Yet, during implementation of the statutes the resultant size of the defense acquisition bureaucracy and its associated processes stunted the ability for successful outcomes. As a result, DoD acquisition programs grew in cost, schedule, and did not meet performance expectations, which led to their termination. After examining legislation, beginning with the 1985 Packard Commission to the most recent National Defense Authorization Act for 2017 this paper makes several recommendations to reverse the trend of unsuccessful programs. First, legislatively reduce the number of offices at the OSD level providing oversight on acquisition programs. Second, restructure the Acquisition Category (ACAT) levels to minimize those programs requiring OSD oversight. Finally, grant Milestone Decision Authorities greater authority to approve milestone decisions when systems meet only 80% of their threshold capabilities.

Acquisition Reform for the Future: A Return to Programmatic Efficiency

Over the past thirty years, Congressionally legislated acquisition reforms, intended to improve programmatic outcomes, resulted in an overly bureaucratic, centralized acquisition system no longer able to support warfighter materiel requirements in a timely and affordable manner. Much of this legislation resulted in the creation of stifling bureaucratic organizations providing oversight on numerous programs negatively influencing a program's potential for success. The true intent of past acquisition reform language was not to limit the success of acquisition programs, yet, that is exactly what happened. The interpretation of Congressional language by the Department of Defense (DoD) led to the creation of burdensome oversight processes that resulted in significant program delays and terminations.

Understanding the implementation of past acquisition reform efforts and the resultant negative impact on programs is foundational to improving the system. This paper reviews eight key and critical pieces of Defense Acquisition System (DAS) legislation over the last 30 years to enhance this understanding. Reviewing the Packard Commission Report illustrates important components of reform targeted during the final development and fielding stage of the Army's Big Five programs. Exploring the Goldwater-Nichols Act indicates which Packard Commission recommendations became law. Investigating multiple acquisition reform efforts in the 1990s reveals how Defense Secretary William Perry tried to improve the system. Examining the 2009 Weapon System Acquisition Reform Act (WSARA) highlights acquisition reform efforts in the midst of two wars. Finally, analyzing the National Defense Authorization Act for FY2017 (NDAA17) illustrates important steps aimed at trying to improve overall acquisition outcomes.

Two examples, the M1 Abrams and the AH-64 Apache, successfully navigated a less restrictive acquisition system in the 1970s and 1980s. In an environment of fewer bureaucratic restrictions and oversight, large Major Defense Acquisition Programs (MDAPs) were able to reach successful outcomes. In the era of the Cold War, the capabilities provided by these weapon systems were critical to ensure the US Army could defeat a near-peer adversary.

This analysis provides three key legislative recommendations to help DoD program managers achieve more successful acquisition outcomes. The recommendations focus on streamlining bureaucratic offices, restructuring the Acquisition Category (ACAT) levels, and granting Milestone Decision Authorities (MDA) an ability to move a program forward when a system meets a significant portion of its originally specified requirements. An increase in positive programmatic outcomes across the DoD is strategically beneficial as it provides the United States a technological edge over global near-peer competitors.

Past Acquisition Reforms

In 1985, the United States convicted some defense contractors for fraud, waste, and mismanagement.¹ Formal investigations into companies like General Dynamics and Texas Instruments revealed faulty subcomponent testing procedures and poor book keeping processes.² On 15 July 1985, the president issued executive order 12526 establishing the Packard Commission.³ This resulted in the creation of the Assistant Secretary of Defense for Acquisition and Logistics (ASD(A&L)), which in time would become known as the Under Secretary of Defense for Acquisition, Logistics, and Technology (USD(AT&L)) and the Defense Acquisition Executive (DAE).⁴ The immediate task of this new office was to aid the Packard Commission probe and work to

control acquisition program cost overruns.⁵ Key to the creation of ASD(A&L) was the consolidation of acquisition functions from the Assistant Secretary of Defense for Manpower, Installations, and Logistics (ASD(MI&L)), the Under Secretary of Defense for Research and Engineering (USD(R&E)), and control of the Defense Logistics Agency (DLA).⁶ This consolidation proved beneficial in streamlining the reporting and accountability chain for senior acquisition officials and subordinate program managers while bringing together the acquisition and science and technology (S&T) communities.

The Packard Commission report highlighted a lack of adequate cost accounting management processes and a misalignment between funds spent and advanced technological capability delivered to DoD.⁷ The final report also asserted the acquisition process had a lengthy seven to ten year timeline, leading to a high cost of development, and delivered obsolete technologies to users.⁸ The report had four major acquisition reform recommendations. First, create the Under Secretary of Defense for Acquisition (USD(A)) who would set policy and oversight all acquisition related activities.⁹ Second, create a senior civilian presidential appointee Service Acquisition Executive (SAE) to govern each service's acquisition activities and report to both the USD(A) and the service secretary.¹⁰ Third, create Program Executive Officers (PEOs) who oversee groups of program managers and report to the SAE and USD(A).¹¹ Fourth, create a Vice Chairman of the Joint Chiefs of Staff (VCJCS) to oversee a Joint Requirements Management Board and approve new requirements for each phase of the acquisition lifecycle process.¹²

The impetus behind the commission and its recommendations was an overreaction to perceived mismanagement of an unruly acquisition process. Although

some Packard Commission recommendations were beneficial, subsequent studies revealed the initiatives and resultant statutes did not reduce cost overruns.¹³ Despite cost overruns, many successful programs emerged during this time. The M1 Abrams Tank, M2/3 Bradley Infantry Fighting Vehicle (IFV), M109 Paladin Self Propelled Howitzer (SPH), Patriot Missile Defense System, AH-64 Apache Attack Helicopter (AAH), UH-60 Black Hawk Helicopter, and the multi-variant Highly Mobile Multi-Wheeled Vehicle (HMMWV) truck were incredibly successful acquisition programs developed during 1970s and 1980s, still in use today. The acquisition professionals of the time were doing something right. At the outset, the Packard Commission recommendations sought to create a limited framework capable of correcting the acquisition ills of the time. Instead, the commission's recommendations and resultant statutes began 30 years of new laws and bureaucratic growth eventually stifling creativity, innovation, and overall programmatic success for the coming decades.

In April 1986, President Reagan issued National Security Directive (NSD) 219, which implemented the defense management recommendations from the Packard Commission report.¹⁴ Later in November, the president signed the Goldwater-Nichols Defense Reorganization Act into law.¹⁵ The Goldwater-Nichols law directed the implementation of broad sweeping changes across many functions of the DoD to include many of the Packard Commission acquisition reform recommendations.¹⁶

First, the new law immediately established the Office of the Under Secretary of Defense for Acquisition (USD(A)) along with authorities and responsibilities to carry out powerful oversight functions.¹⁷ Second, the new law set baseline descriptions for each of the Defense Department's major weapon acquisition programs.¹⁸ Third, it expanded

multi-year procurements, which created more cost-effective ways to procure weapons over a longer period of time.¹⁹ Fourth, the law increased the authority of program managers to manage their programs successfully.²⁰ Finally, it required prototype competitions early in a program, creating a fly-before-buy scenario, prior to the execution of major developmental activities.²¹

Goldwater-Nichols created a highly successful and streamlined management architecture, which ran from a service acquisition executive, through the program executive officer, to the program manager.²² However, this lean and effective framework became bloated with the passage of more acquisition reform laws. Two important results of Goldwater-Nichols led to significant negative impacts within DoD. First, a clear division between the requirements generation community and the acquisition community emerged resulting in approved requirements that were technologically unachievable and unaffordable.²³ Second, the new management framework essentially severed all influence the service chiefs and members of the operational army had over acquisition programs.²⁴ The overall defense management provisions implemented by Goldwater-Nichols did not achieve their objectives.²⁵ The organizational divisions created by this law eventually led to mistrust, friction, and increased scrutiny ultimately affecting the ability of programs to be successful.

The 1990s saw a continuation of programmatic cost growth and schedule slips. Rather than attacking the root cause of the problem linked to unrealistic and unachievable requirements often tied to immature technologies, DoD and Congress opted to implement policies leading to increased bureaucratic management and oversight. Three main acquisition reform efforts emerged in the 1990s both from within

DoD and from Congressional legislative efforts. These efforts included the Acquisition Performance Benchmarking Initiative (APBI), the passage of a law combining the Federal Acquisition Improvement Act (FAIA) and the Federal Acquisition Streamlining Act, and the Clinger-Cohen Act.²⁶

Under the leadership of Defense Secretary William J. Perry, Colleen Preston became the Deputy Under Secretary of Defense for Acquisition Reform, and was charged with leading the reform effort.²⁷ She targeted three main areas: requirements determination, resource allocation, and the acquisition process.²⁸ She called her methodology for tracking and measuring the progress of potential reform efforts the Acquisition Performance Benchmarking Initiative (APBI), established in 1995.²⁹ Measuring the success of reform initiatives became elusive since each individual weapons program is different and unique. Key recommendations included an immediate transition away from the use of military specifications to capability based specifications, the publication of periodicals focusing on acquisition best practices, creating a digital reference tool called the Defense Acquisition Deskbook, and forming multiple acquisition professional development forums and workshops.³⁰

Congress became increasingly frustrated with the slow pace of reform and initiated legislation to address acquisition performance shortcomings.³¹ In an effort to help DoD streamline acquisition procedures and adopt more agile commercial practices Congress introduced H.R.2238 the Federal Acquisition Improvement Act (FAIA) in May 1993.³² This bill advocated for commercial product acquisition, increased competition, improved the bid and proposal process, simplified small purchases, and set aside \$3B for small business opportunities.³³ This bill was incredibly aspirational and filled with

good intent but lacked detail and substance, creating implementation angst within DoD.³⁴

DoD worked closely with Congress to adapt and improve H.R.2238.³⁵ The outcome was S.1578, the Federal Acquisition Streamlining Act (FASA).³⁶ President Clinton finally signed the bill into law on 13 October 1994.³⁷ Key facets of this bill included the tenets of H.R.2238, a \$100K simplified acquisition threshold, the creation of new restrictions and oversight requirements on contracting offices, increased small business set asides, and its failure to streamline contracts valued at over \$100K.³⁸ Once again, a well-intentioned effort to improve acquisition turned into a compromise between DoD and members of Congress. This compromise resulted in half measures that increased bureaucratic oversight, increased labor costs to perform the required work required by the additional oversight, stifled innovation, increased programmatic scrutiny, and added length to program schedules already criticized for being too long.

A second key piece of legislation followed in February 1995, the Federal Acquisition Reform Act (FARA).³⁹ Congress also created the Information Technology Management Reform Act (ITMRA) and together with FARA became the Clinger-Cohen Act.⁴⁰ Key facets of this legislation included a renewed emphasis on commercial purchasing, updated procurement laws governing post-employment restrictions, and streamlined the computer bid and protest process by eliminating the General Services Board of Contract Appeals.⁴¹ FARA once again attempted to move acquisition reform in the right direction but it failed to produce the desired effects as it had no incentive for DoD and defense contractors to alter their behavior leading to positive programmatic outcomes.⁴²

The decade of the 1990s saw significant movement both within DoD and Congress on the topic of acquisition reform. Although many of the initiatives attacked nagging issues within acquisition processes, many failed to attack and alter the root causes of acquisition woes. Legislation during this decade encouraged the procurement of commercially available technologies, placed an emphasis on the adoption of commercial industry business best practices, and mandated the transition from Military Specifications (MILSPEC) to Contract Deliverables and Requirements Lists (CDRLs) better known as capability based specifications.⁴³ The laws of this period also required specific levels of acquisition education and certification through the Defense Acquisition University (DAU) and eased the contract restrictions on small procurements under \$100K.⁴⁴ These were all valuable steps in the right direction but in most cases failed to inculcate long lasting and meaningful reform.⁴⁵ Contracting bureaucracies continued to grow because of new oversight measures, nothing was done to simplify acquisitions over \$100K, the DoD was not empowered to de-scope requirements or processes that were unrealistically looking to address capability gaps with expensive and immature technologies, and core acquisition policies were not reduced to make the overall process more efficient. The overall assessment of this period of acquisition reform reveals that laws and policies addressed symptoms of the problem but never addressed their root causes.

Both Congress and DoD implemented many small efforts annually to improve acquisition outcomes.⁴⁶ Many of these requirements resulted in numerous visits and briefings to members of Congress and professional staffers on the status of different acquisition programs and efforts. In 2009, amidst large budgets and two wars, a new

piece of acquisition reform legislation made its way through Congress known as the Weapon System Acquisition Reform Act (WSARA).⁴⁷

When the president signed the bill into law in May 2009, it created four new offices within the Office of the Secretary of Defense (OSD): Systems Engineering (SE), Developmental Test and Evaluation (DT&E), Cost Assessment and Program Evaluation (CAPE), and Performance Assessments and Root Cause Analysis (PARCA).⁴⁸ Systems Engineering reviews and approves programmatic system engineering plans while acting as the principal systems engineering advisor to the SECDEF and the USD(AT&L).⁴⁹ DT&E creates and develops policy while acting as the approval authority on all programmatic developmental test and evaluation plans.⁵⁰ CAPE primarily advises senior officials on all matters related to cost analysis, planning, programming, budgeting, and financial execution, while also preparing independent cost estimates for acquisition programs.⁵¹ PARCA assesses acquisition program performance through independent analysis and helps to identify the root cause of cost and schedule growth problems.⁵² This legislation renamed some offices performing these duties already in existence. In other instances, the legislation created new offices to perform these specific duties.

The WSARA also required that program acquisition strategies state how the program intended to perform vendor competitions throughout the entirety of the programmatic life cycle.⁵³ The law created a competitive prototyping phase early in a systems lifecycle to help reduce risk and aid in future contract awards.⁵⁴ Another important facet of the law was to require the Joint Requirements Oversight Council (JROC) to verify trade-offs among cost, schedule, and performance on all joint military requirements.⁵⁵ At the same time, the 2009 National Defense Authorization Act required

the implementation of the Configuration Steering Board (CSB) to assist DoD senior leaders with de-scoping and reducing costly or unattainable requirements.⁵⁶

By 2012, DoD implemented many of the aspects of the 2009 law.⁵⁷ All offices continue to create and issue new policy guidance while refining internal processes to ensure they meet their respective oversight responsibilities.⁵⁸ Each office is performing activities in four key areas: developing policy for each military service to operate in their unique environments; approving milestone documents for every milestone review; consistently monitoring acquisition program activities; and creating performance metrics to monitor and analyze program activities.⁵⁹ Resultantly, all DoD program offices impacted by this legislation are modifying and updating numerous acquisition documents ensuring they adhere to new policies and guidance.⁶⁰

The Government Accountability Office (GAO) assessed is that these new offices and their oversight policies have helped program managers identify and better manage risks throughout a system's life-cycle.⁶¹ The GAO assessment also asserts that DoD addresses reliability performance aspects of a program earlier in the schedule, that requirements now include potential trade-offs, and cost estimates and schedules are more realistic.⁶² The GAO, however, does not identify that a more realistic cost estimate and schedule result in program outcomes that provide improved capabilities, are faster to the field, and are less inexpensive. These four new offices may be doing their jobs well, but the law created more bureaucracy required to approve a program's path forward. The result is an increase in both cost and schedule along the entire value chain.⁶³ Program offices require more time and personnel to author a greater number of acquisition documents, write them in the manner prescribed, brief them to all approval

authorities, while also performing the programmatic activities necessary to create the data for each of the reports.⁶⁴

The CSB, first introduced in the 2009 NDAA, took a major step in the right direction. The law required all services to review programs and make recommendations for the de-scoping of costly, unaffordable, or immature requirements. The problem with the CSB is twofold. First, the CSB is another cumbersome bureaucratic process that results in a series of meetings where program managers must convince numerous stakeholders to reduce requirements to allow for cost savings and schedule reductions. Many stakeholders are reluctant to eliminate requirements and view reductions as a personal indictment of the requirements approval process in which many of them participate. Second, a service level CSB is never the final word in de-scoping and restructuring requirements to enable overall programmatic success. Once the service level CSB makes a decision to reduce requirements, since ACAT 1 requirements often carry a Joint Staff Designation (JSD) of Joint Requirements Oversight Council (JROC) Interest, this decision must also go back through the entire Joint Capabilities Integration Development System (JCIDS) process to gain revalidation of the requirement change. This step adds additional time to an already slow process.⁶⁵

The passage of the 2017 National Defense Authorization Act (NDAA 17) initiated many broad sweeping changes to the DoD acquisition system. Congress amended Section 133, Chapter 4, Title 10 of the United States Code (USC) which changes the Assistant Secretary of Defense for Research and Engineering (ASD(R&E)) to the Office of the Under Secretary of Defense for Research and Engineering (USD(R&E)).⁶⁶ A Pre-Goldwater-Nichols move elevating the office in stature and making it a direct report to

the Secretary of Defense.⁶⁷ The NDAA17 introduced a new Modular Open System Approach (MOSA) requirement mandating the early identification of open architecture components capable of seamless upgrades in the future.⁶⁸ The law directs each military service to create a board of senior advisors that will manage, review, and approve technology prototyping projects intended to replace and upgrade weapon system components.⁶⁹ The NDAA 17 requires DoD to perform an independent technical risk assessment for Major Defense Acquisition Programs (MDAPs) to aid in lowering overall programmatic risk.⁷⁰ Finally, the legislation directs OSD to execute a Key Performance Parameter (KPP) reduction pilot program identifying if reducing program KPPs improves programmatic outcomes.⁷¹

The legislation appears to communicate that separating the Science & Technology (S&T) functions performed by USD(R&E) from the acquisition community will improve overall acquisition outcomes. Congress expects DoD to realize this improvement through a more robust S&T organization capable of more rapid delivery of new ground breaking capabilities.⁷² Additionally, the USD(AT&L) name and role is altered to the Under Secretary of Defense for Acquisition and Sustainment (USD(A&S)).⁷³ This change highlights a specific limited role focused on integrating mature technologies into weapon systems, the production of weapon systems, and their sustainment.⁷⁴ The ultimate risk with this Congressional directive is two-fold: it can potentially lead to the creation of new more stifling bureaucratic oversight that continues to impede innovation and progress, and it can create an even larger barrier between the acquisition and S&T communities to the detriment of future modernization efforts. There is some speculation, based on the Congressional establishment of the USD(R&E), that

some within DoD may lobby Congress to create an Under Secretary for Sustainment (USD(S)).⁷⁵ This would only exacerbate issues and further separate critical functions that require seamless integration for successful acquisition and battlefield outcomes.

The new MOSA requirement creates an internal process emboldening the USD(R&E) position while imposing new bureaucratic requirements on program managers and creating increased expectations for a process that already exists. The law directs the implementation of a modular open systems approach to weapon system developmental efforts, verification of the approach, capability requirement document annotation of future performance levels, accounting for these future capabilities in the Analysis of Alternatives (AoA), capturing the MOSA approach within the Acquisition Strategy, inclusion of the approach within the Request for Proposal (RFP), and accounting for details of the approach within a system's Milestone B approval.⁷⁶ For many years the DoD implemented the best business practice of creating open architecture systems enabling future streamlined modernization efforts.⁷⁷ It is the only way that systems like the Big 5 remained viable combat system countering evolving threats over the last 30 years.⁷⁸ This new legislation creates bureaucratic processes adding both cost and time to an already overburdened acquisition system. Additionally, the new law potentially divides the S&T and acquisition communities while risking the seamless integration of future capabilities into weapon systems.

The NDAA 17 directive to create a prototyping project board within each Service further reduces the efficient actions within acquisition communities to develop and integrate new advanced subsystems. A governing board of senior advisors is not only redundant to a process already in existence, but creates a bureaucratic delay with S&T

systems ready to progress into the prototyping phase and their eventual seamless integration into MDAPs. The new legislative requirement to have an independent technical risk assessment performed on MDAPs is also redundant as programs already perform Preliminary Design Reviews (PDRs) and Critical Design Reviews (CDRs) which are approved by the ASD(R&E) and intended to tie capabilities to requirements and ultimately to mature technologies. Finally, the directive for DoD to perform a KPP reduction pilot program is a step in the right direction but does not get to the root of the requirement problem. Although the number of requirements can be problematic, the greatest source of friction lies within what threshold capabilities a specific requirement is demanding.

In total, the NDAA 17 tries to implement laws and directives focused on improving overall acquisition outcomes. Where it falls short is that it creates redundant processes, increases bureaucratic oversight, and further separates the S&T and acquisition communities. The Big 5 weapon programs were successful, and are still viable today, not because they received excessive legislative help and bureaucratic oversight, but because they did not. Congress and the DoD must ensure the S&T and acquisition communities remain close, legislation reduces and streamlines oversight, and MDAs have greater authority to rapidly field critical system. These steps will ultimately lead to an improvement of overall acquisition outcomes.

The M-1 Abrams and AH-64 Apache

One of the stalwart systems in the Army inventory is the M1 Abrams Main Battle Tank (MBT) and all of its subsequent variants. With the M1 program's inception in 1972 many advocates of the system realized relationships, constituencies, patience, decision-maker support, sound and stable requirements, adequate funding, and an adaptable

acquisition strategy would be required for the program to be successful.⁷⁹ Since the program's approval to move into production, strong leadership coupled with reasonable oversight ensured multiple different M1 variants remained relevant on today's battlefield.

The initial requirements process began with a limited five-month effort to write a set of simple, straight forward requirements called a Mission Needs Statement (MNS) focused on a capability exceeding the M-60 and on par with Soviet era threats.⁸⁰ The MNS outlined a tank costing no more than \$500K balancing weight, crew size, protection levels, armaments, and power generation. Holding these requirements firm, avoiding requirements creep, and using funding as a capability constraint and appetite suppressant was essential to the immediate success of the program.⁸¹

Through 1978 and 1979 numerous developmental issues with diagnostic test equipment, lack of adequate test prototypes, Soldier training, and engine problems surfaced during the testing phase.⁸² Brigadier General (BG) Robert J. Baer, the Army program manager, had a direct line of communication with the Army Chief of Staff and Secretary of the Army, a strong support staff that aided and managed stakeholder engagements, and minimal bureaucratic oversight.⁸³ With the support of many leaders within the Army and DoD, when the M1 program finished its developmental phase in 1979, having met all threshold requirements, it was approved for Low Rate Initial Production (LRIP).⁸⁴

The M1 program office and BG Baer adeptly managed requirements, stakeholders, staffs, elected officials, costs, and schedule enabling the successful fielding of two-thousand tanks by 1985.⁸⁵ This effort resulted in the creation of a foundational system that, through many incremental capability improvements, remains

viable and combat effective in 2017.⁸⁶ The program's robust Acquisition Strategy captured many of the vital plans necessary to ensure success of the program, most of which centered on integrating mature technologies, creating a modular upgradeable architecture, and potential requirement trade-offs to keep the program on its 7 year developmental schedule and within budget.⁸⁷ The key lessons from this example are by tightly managing requirements, leveraging mature technologies, creating a modular system, and reducing bureaucratic oversight while enabling subordinate leaders to run their programs, acquisition outcomes can be successful.

The AH-64 Apache Attack Helicopter was a revolutionary advancement in the integration and realization of rotary-wing technologies and capability. Program inception began in August of 1972 when a board convened to develop requirements for an Advanced Attack Helicopter (AAH) solution.⁸⁸ Once again, the Army employed a standard set of acquisition best practices to bring this program to fruition. The program office tightly controlled a base set of minimal performance requirements, closely managed costs, effectively communicated to strategic leaders and members of Congress, and efficiently navigated a limited bureaucracy.⁸⁹

The Army codified a set of stable requirements in the AAH MNS that stated the AAH would be in production by 1978.⁹⁰ The program manager was successful in thwarting any requirements creep, with all new emerging capabilities written into the acquisition strategy to support future Pre-Planned Product Improvements (P3I).⁹¹ High subsystem integration expenses drove cost growth from \$1.7M to \$6.4M per unit during the mid-1970s.⁹² This cost growth nearly resulted in program termination, but the Army and DoD exhibited patience.⁹³ The Army brought AAH cost growth under control by

limiting the integration of new emerging technologies and focused on mature technologies capable of meeting minimum threshold requirements.⁹⁴ Congress appropriated \$444.5M to support LRIP in 1982.⁹⁵

As with the M1, managing the bureaucracy and key stakeholders during the acquisition process became paramount.⁹⁶ The program manager and the user representative developed a close working relationship enabling them to fend off detractors of the program.⁹⁷ Although there was limited bureaucratic oversight compared to today, the program manager used Integrated Product Teams (IPTs) to manage key stakeholders necessary to keep the program moving forward.⁹⁸ The IPTs created a forum where the leaders shared information, visions, and communicated strategies enabling the entire team to function in a synchronized manner.⁹⁹

The AH-64 entered production in 1982 and first saw combat during Operation Just Cause in 1989.¹⁰⁰ Ever since 1989, the AH-64 remains a mainstay within the Army's Combat Aviation Brigades (CABs). AH-64 programmatic success resulted from requirements management, cost management, schedule flexibility in light of budget uncertainty, limited bureaucratic oversight when compared to today, and effective organized strategic communications. This system, like many others of its era, provided a modular foundation allowing for consistent relevancy through multiple incremental capability upgrades over three decades.

Recommendations

The first recommendation is to reduce the number of offices on the OSD staff providing programmatic oversight to ACAT 1 programs. The NDAA 17 reorganizes the offices within the OSD that provide acquisition oversight for DoD program offices. This legislation does nothing to eliminate, reduce, or streamline the numerous acquisition

oversight offices on the OSD staff, or their roles and processes that ultimately overburden all the DoD program offices.

Congress and DoD must bring the S&T and acquisition communities closer together to better enable the seamless integration and transition of new emerging capabilities into legacy platforms. The Defense Advanced Research Projects Agency (DARPA) fulfills the necessary role for an unbiased and independent agency to investigate and solve difficult S&T problems. DARPA calls these challenges, “DARPA Hard.”¹⁰¹ Service and Department of Energy (DOE) associated laboratories also work to solve basic research problems generally focused on more near term S&T challenges. Rather than separate the functions creating disparate organizations, DoD must sustain and improve how these communities to work together to develop needed future capabilities.

Examining specific offices within the OSD structure provides clarity on how the bureaucracy is impacting the overall cost and schedule of a program and its ability to be successful. Offices within the Director of Small Business Programs, Systems Engineering, PARCA, DT&E, the Director of Defense Procurement and Acquisition Policy, the ASD(Acquisition), the ASD(R&E) now USD(R&E), and the ASD(Energy, Installation & Environment) all add to the burden program management offices have to gain consensus for milestone approvals. An overall reduction in the number of OSD offices providing oversight allows for more streamlined program functions, more empowered leaders, while operating more efficiently and effectively navigating the acquisition process to deliver capability to DoD warfighters.

The second recommendation is to restructure the governing Acquisition Category (ACAT) levels which will create more ACAT 3 and 2 programs while eliminating the ACAT 1C designation and reducing the number of ACAT 1D programs. ACAT levels drive overall programmatic oversight, the amount of documents an acquisition program requires, and the number of offices approving acquisition documents. ACAT 3 programs, the lowest level of oversight, are required to have milestone documents staffed through the Army staff with final milestone approval authority residing with the system's Program Executive Officer (PEO). ACAT 2 programs, the next higher level of oversight, are required to have milestone documents approved by a service staff with final milestone approval residing with the Service Acquisition Executive (AAE). ACAT 1D programs, the highest level of oversight, are required to have milestone documents staffed through the OSD staff with final milestone approval authority residing with the Under Secretary of Defense for Acquisition, Technology, and Logistics (USD(AT&L)). ACAT 1C programs are those that meet ACAT 1D thresholds but that are delegated from the USD(AT&L) to the service level SAE.

The current system is solely based on Research, Development and Engineering (RDT&E) and Production cost thresholds. Based on the rise of all associated costs of a program these thresholds require adjustment. Programmatic ACAT 3 cost thresholds are RDT&E expenditures less than \$185M and Production expenditures less than \$835M. ACAT 2 RDT&E expenditures are between \$185M and \$480M and Production expenditures between \$835M and \$2.79B. The ACAT 1 threshold for RDT&E is greater than \$480M and for Production is greater than \$2.79B. All dollar values are in FY 2014 constant year dollars.¹⁰²

The USD(AT&L) adjusts both the funding levels and the associated inflation year every seven to ten years to account for slight increases in technology and labor costs. For example USD(AT&L) recently raised the ACAT 1D threshold from \$2.1B to \$2.79B and the base determination year was changed to FY2014.¹⁰³ This minor change does little to affect the total number of overall systems under oversight by OSD.¹⁰⁴

Increasing the dollar value thresholds for each ACAT level will have the effect of increasing the number of ACAT 3 and 2 programs while reducing the number of ACAT 1 programs. Creating more ACAT 3 and 2 programs increases the number of programs PEOs, SAEs, and Service Chiefs have oversight of while unburdening many programs of the stifling oversight brought on by the OSD staff. Comparing the F-35 Joint Strike Fighter (JSF) program with Body Armor Programs provides an excellent example why this system does not work. The new Soldier Protection System (SPS) is a lighter weight integrated set of protective equipment the Army plans to field to every Soldier. Current estimates have each set of SPS costing \$7K with a potential long-term procurement of one million systems, one for every Soldier, which equates to \$7B.¹⁰⁵ Using the existing system DoD would treat a new set of body armor with the same level of rigor and acquisition scrutiny as the trillion-dollar F-35 program, which contains a large difference in technological and programmatic complexity.

By doubling or even tripling the existing cost thresholds one could greatly reduce the number of overall programs entering into the ACAT 1 cost threshold arena. This adjustment creates significant cost savings in labor, staff processing, data creation and collection, and time.

The third and final recommendation is to empower Milestone Decision Authorities (MDAs) at every level to approve moving programs through their Milestone C, Low Rate Initial Production (LRIP), and Full Rate Production (FRP) decisions when a program exhibits only meeting eighty percent of each of its validated threshold requirements without needing to return through the JCIDS process. The MDA would only grant approval to move forward when the program manager presents a plan to meet full-required threshold capability over the life-cycle of the system. Both weapon system requirements generation and subsequent management are enormously difficult tasks. Requirements generation, the initial step often leading to a materiel acquisition program, is performed to codify capability gaps in an existing or future force. Yet, requirements generators perform this step without any understanding of what existing or emerging technologies can fulfill the gap. Many leaders are critical of the requirements generation processes and find it lacking and therefore the weak link in all acquisition programs.¹⁰⁶ The problem is not with requirements generation, but with requirements management after the program manager initiates system development.

The CSB took a major step in the right direction but it did not go far enough. A key facet for program success and ultimately success for the services and their warfighters is an ability to field and put to use a capability, as soon as possible, even if that capability is only at eighty percent of the desired level of performance. If a program manager can field a weapon system, it becomes much easier to pursue incremental upgrades of the system over time.¹⁰⁷ This course of action subscribes to the age-old mantra, “perfect is the enemy of good enough.”

Therefore, the most efficient manner to capitalize on past investments in a required capability is to empower the lowest level leaders to field new systems as quickly as possible. MDAs require the authority to move programs through their production milestones once a system has adequately shown adherence to at least eighty percent of its originally validated threshold requirements. PEOs should only allow program managers to do this when they can exhibit a plan to increase the level of performance to meet full-required threshold capabilities.

Congress and USD(AT&L) can work together to craft statutory language that will reduce the oversight responsibilities of the aforementioned offices, adjust the ACAT levels, and grant MDAs the authority to approve Milestone decisions when systems meet 80% of their requirements. The Assistant Secretary of Defense for Acquisition (ASD(A)) can take the lead on implementing all of the statutory requirements. The USD(A) can eliminate and restructure the OSD offices while determining more value added “advise and assist” roles for them. The USD(A) can oversee the rewriting of DoDI 5000.02, which governs and regulates the Defense Acquisition System, to adjust the ACAT determination levels and the MDA authorities for milestone approvals tied to system level requirements. The restructuring language, if included in the FY18 NDAA, can take effect on 1 OCT 2017 and allow one year for implementation, with a deadline of 1 OCT 2018.

A challenge facing the implementation of these recommendations is the argument that today’s more complex and joint systems require more management oversight, to an extent this is true. The required amount of oversight should come from the proper offices, originally created to perform these functions, and not new or

redundant offices that drive additional testing, data collection, staff increases, and documentation. OSD offices like USD(A), OSD Cost Assessment and Program Evaluation (CAPE), the Director of Operational Testing and Evaluations (DOT&E), and the ASD(R&E) all exist to perform and manage critical developmental and integration activities associated with today's systems. Additionally, the Joint Staff plays a critical role via the JCIDS process to validate requirements ensuring they address joint integration and compatibility issues.

Conclusion

Over the last thirty years, Congress and DoD have legislated and implemented numerous acquisition reform efforts. The legislation was instrumental in addressing critical issues within the acquisition process fraught with a lack of cost control, contractor impropriety, and instances of mismanagement at the program manager level. Unfortunately, rather than creating an efficient method to implement directives with the statutes, the DoD created a large bureaucracy to manage the acquisition efforts of the different services. The Packard Commission, Goldwater-Nichols, Secretary Perry's efforts in the 1990s, the 2009 WSARA, and the NDAA 17 all created new laws to govern acquisition processes. The overarching theme with the implementation of these reforms was the creation of more levels of bureaucratic oversight, which has unduly overburdened weapon system programs.

The M1 Abrams and AH-64 Apache examples show that a minimal level of bureaucratic oversight from the OSD staff, even in light of some acquisition setbacks, enabled strategic patience leading to successful programs. These few, and many others like the M109 Paladin, the M2/3 Bradley IFV, UH-60 Black Hawk, the Patriot Missile Defense Systems, and the HMMWV are all incredibly successful programs, still in use

today. The DoD needs to keep what made these programs successful three decades ago and eliminate what facilitated the failure of some modern day weapon system programs.

The three recommendations for incremental implementation to return efficient and effective programmatic principles will ultimately achieve successful ends. Congress reduces the number of offices providing oversight on acquisition programs. Congress restructures the Acquisition Category (ACAT) stratification to increase the amount of ACAT 3 and 2 programs, eliminating the ACAT 1C designation, and reduces the number of ACAT 1D programs. Finally, Congress allows MDAs to authorize programs to move through their production milestones when they have met eighty percent of their validated threshold requirements.

Strategically these small but meaningful changes place greater authority within the hands of each service. This authority will enable each service to more rapidly provide combatant commanders with the improved capability needed to be successful in a cross domain and transregional threat environment. Much has changed throughout the acquisition system, but rather than becoming more agile and flexible to adapt to a changing world, it has become more rigid and burdensome, creating a large gap between fielded capabilities and emerging threats. This research and recommendations aim to modify the Defense Acquisition System to allow acquisition professionals to react faster to a world full of adaptive threats, fast-paced developmental technologies, and an ever-evolving world of budget uncertainty. Through the use of existing commercial sector best practices and incremental upgrades, the acquisition system can evolve to provide new capabilities faster, while divesting itself of lethargic business processes.

Without significant streamlining, the suffocating oversight currently in place will shackle and stifle any hope for future programmatic success.

Endnotes

¹ J. Ronald Fox, *Defense Acquisition Reform, 1960-2009 An Elusive Goal* (Washington, DC: Center of Military History, 2011), 120.

² *Ibid.*, 121.

³ *Ibid.*

⁴ *Ibid.*, 122.

⁵ David S. Christensen, David A. Searle, and Caisse Vickery, "The Impact of the Packard Commission's Recommendations on Reducing Cost Overruns in Major Defense Acquisitions Programs," *Acquisition Review Quarterly* 19 (Summer 1999): 251-262.

⁶ Fox, *Defense Acquisition Reform*, 122.

⁷ *Ibid.*, 125.

⁸ *Ibid.*, 128.

⁹ *Ibid.*, 129.

¹⁰ *Ibid.*

¹¹ *Ibid.*, 129.

¹² *Ibid.*, 129.

¹³ Christensen, Searle, and Vickery, "The Impact of the Packard Commission's Recommendations," 251.

¹⁴ John M. Poindexter, "Implementation of the Recommendations of the Blue Ribbon Council on Defense Management," April 1, 1986, <https://fas.org/irp/offdocs/nsdd/nsdd-219.htm> (accessed March 22, 2017).

¹⁵ James R. Locher III, "Has it Worked? The Goldwater-Nichols Reorganization Act," Autumn 2001, <https://www.usnwc.edu/getattachment/744b0f7d-4a3f-4473-8a27-c5b444c2ea27/Has-It-Worked--The-Goldwater-Nichols-Reorganizatio> (accessed March 22, 2017).

¹⁶ *Ibid.*, 96.

¹⁷ Fox, *Defense Acquisition Reform*, 135.

¹⁸ *Ibid.*

¹⁹ Ibid.

²⁰ Ibid.

²¹ Ibid.

²² Ibid., 136.

²³ Charles Nemfakos et al., *The Perfect Storm, The Goldwater-Nichols Act and Its Effect on Navy Acquisition* (Arlington, VA: RAND, 2010), 25.

²⁴ Fox, *Defense Acquisition Reform*, 136.

²⁵ Locher III, "Has it Worked? The Goldwater-Nichols Reorganization Act."

²⁶ Fox, *Defense Acquisition Reform*, 170.

²⁷ Ibid., 164.

²⁸ Rhys McCormick, Samantha Cohen, and Maura Rose McQuade, "Measuring the Outcomes of Acquisition Reform by Major DoD Components," https://csis-prod.s3.amazonaws.com/s3fs-public/legacy_files/files/publication/150930_McCormick_MeasuringOutcomesAcquistionReform_Web.pdf_page_8 (accessed March 23, 2017).

²⁹ Fox, *Defense Acquisition Reform*, 164.

³⁰ Ibid.

³¹ Ibid., 165.

³² Ibid.

³³ Ibid., 166.

³⁴ Ibid.

³⁵ Ibid.

³⁶ McCormick, Cohen, and McQuade, "Measuring the Outcomes."

³⁷ Fox, *Defense Acquisition Reform*, 167.

³⁸ McCormick, Cohen, and McQuade, "Measuring the Outcomes."

³⁹ Fox, *Defense Acquisition Reform*, 170.

⁴⁰ Ibid.

⁴¹ Ibid.

⁴² Ibid.

⁴³ Ibid.

⁴⁴ Ibid

⁴⁵ Ibid., 166.

⁴⁶ This is based on the experience of the author as an Army Acquisition Officer.

⁴⁷ Ibid.

⁴⁸ U.S. Government Accountability Office, *Weapons Acquisition Reform: Reform Act is Helping DOD Acquisition Programs Reduce Risk, but Implementation Challenges Remain* (Washington, DC: U.S. Government Accountability Office, December 2012), 4.

⁴⁹ Ibid., 5.

⁵⁰ Ibid.

⁵¹ Ibid.

⁵² Ibid.

⁵³ Ibid., 6.

⁵⁴ Ibid.

⁵⁵ Ibid., 8.

⁵⁶ Glossary of Defense Acquisition Acronyms and Terms, "Configuration Steering Board (CSB)," <https://dap.dau.mil/glossary/pages/1613.aspx> (accessed January 21, 2017).

⁵⁷ U.S. Government Accountability Office, *Weapons Acquisition Reform*, 8.

⁵⁸ Ibid.

⁵⁹ Ibid., 9.

⁶⁰ Ibid., 11.

⁶¹ Ibid., 16.

⁶² Ibid.

⁶³ This is based on the experience of the author as an Army Acquisition Officer.

⁶⁴ Ibid.

⁶⁵ Ibid.

⁶⁶ *National Defense Authorization Act of 2017*, Public Law, 114th Cong., 2nd sess. (February 1, 2017), 340.

⁶⁷ Ibid.

⁶⁸ Ibid., 253.

⁶⁹ Ibid., 258.

⁷⁰ Ibid., 262.

⁷¹ Ibid., 298.

⁷² Ibid., 341.

⁷³ Ibid.

⁷⁴ Ibid.

⁷⁵ This perspective was shared by LtCol Robert Freeman (USMC), a current member of USD(AT&L) staff.

⁷⁶ *National Defense Authorization Act of 2017*, 255.

⁷⁷ This is based on the experience of the author as an Army Acquisition Officer.

⁷⁸ Ibid.

⁷⁹ Kevin C. Millspaugh, *The M1 Abrams Tank: A Case Study in Major Weapon Systems Acquisition and Program Management*, Thesis (Monterey, CA: Naval Post Graduate School, June, 1995), 1.

⁸⁰ Ibid., 22.

⁸¹ Ibid., 24.

⁸² Ibid., 29.

⁸³ Ibid., 32.

⁸⁴ Ibid., 30.

⁸⁵ Ibid., 40.

⁸⁶ David Zatz, "The XM-1 and M1 Abrams: The Last Chrysler Tanks," <http://www.allpar.com/history/military/M1-tanks.html> (accessed March 23, 2017).

⁸⁷ Millspaugh, *The M1*, 40.

⁸⁸ Edward W. Ference, *Case Study of the Development of the Apache Attack Helicopter (AH-64)*, Thesis (Monterey, CA: Naval Post Graduate School, December, 2002), 17.

⁸⁹ Ibid., 48.

⁹⁰ Ibid.

⁹¹ Ibid., 49.

⁹² Ibid., 50.

⁹³ Ibid.

⁹⁴ Ibid.

⁹⁵ Aviastar, "Hughes AH-64 "Apache" 1975,"
http://www.aviastar.org/helicopters_eng/mcdonnell_apache.php (accessed March 23, 2017).

⁹⁶ Ference, *Case Study of the Development of the Apache Attack Helicopter*, 59.

⁹⁷ Ibid.

⁹⁸ Ibid., 60.

⁹⁹ Ibid.

¹⁰⁰ Aviastar, "Hughes AH-64 "Apache" 1975."

¹⁰¹ This is based on the experience of the author as an Army Acquisition Officer.

¹⁰² "ACQuipedia: Acquisition Category, January 22, 2008,"
<https://dap.dau.mil/acquipedia/Pages/ArticleDetails.aspx?aid=a896cb8a-92ad-41f1-b85a-dd1cb4abdc82> (accessed February 19, 2017).

¹⁰³ Ibid.

¹⁰⁴ This is based on the experience of the author as an Army Acquisition Officer.

¹⁰⁵ Ibid.

¹⁰⁶ Carol Barton, "The Requirements of Requirements: Saying What You Mean Means Getting What You Need,"
http://read.nxtbook.com/ncma/contractmanagement/february2015/requirementofrequirements_feat.html (March 20, 2017).

¹⁰⁷ This is based on the experience of the author as an Army Acquisition Officer.