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**PERSONNEL MANAGEMENT AND
THE ACQUISITION CORPS**

BY

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by

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This paper examines relationships between the distribution of military personnel in the Army Acquisition Corps among its various career groups. The analysis shows that the AAC is heavily tilted towards the program management career field and probably does not support the current acquisition strategy which emphasizes pre-Milestone I activities.

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I. Introduction

During the past twenty years, the Department of Defense (DOD) material development system (commonly referred to as "RD&A" for Research, Development, & Acquisition) has been changed several times. Some of these changes have involved the personnel management systems used to develop and manage the careers of military officers involved in material development. The largest of these changes is the continuing implementation of the Defense Acquisition Workforce Improvement Act (DAWIA) which became law in 1990.¹

This law traces its origins to several studies of the RD&A officer personnel situation during the 1980s. One of these studies was the Army Science Board (ASB) Summer Study of 1982.² This study was directed by Ms. Amoretta M. Hoerber, then the PDASA-RD&A and GEN John W. Vessey, then VCSA, who worried about:

"the potentially severe management and manpower problems relating to the development, maintenance, and operation of complex systems."

The final ASB report noted that "a major change in officer professional development for RD&A is necessary"³ after they discovered that 40% of the officers working in RD&A had no schooling in math, science, engineering, or business.

The Army responded to this recommendation (and others) with the Material Acquisition Management (MAM) program. This program involved managing officers with RD&A skills through a dual-track system of assignments and promotions using an additional skill identifier, ASI 6T. This didn't work very well as it forced officers to alternate assignments between their primary combat-related and their secondary, i.e. acquisition-related specialties. By the end of the decade most favored the development of a professionalized corps of officers who would single-track in RD&A activities after qualifying in acquisition. This idea was translated into law by

Congress as the DAWIA. The implementation date of the law's provisions for military officers was set at 1 October 1993.⁴ Therefore, the military component of the AAC is now open to review in its third year of existence. In this paper, we examine how well the present AAC of 1996 supports the present acquisition strategy which was announced in 1992 as the "New Acquisition Strategy."⁵

II. The Provisions of DAWIA⁶

DAWIA provided the means for DOD to develop a professionalized corps of senior military officers and civilian officials named the Acquisition Corps. The prescribed personnel management provisions are delineated in four parts -- definition of acquisition positions, identification of acquisition personnel qualifications, promotion and assignment restrictions, and senior management responsibilities and reports.

The first part involves the definition of acquisition positions. There are a minimum of eleven types or "areas":

- Program management
- Systems planning, research, development, engineering, and testing
- Procurement, including contracting
- Industrial property management
- Logistics
- Quality control and assurance
- Manufacturing and production
- Business, cost estimation, financial management, and auditing
- Education, training, and career development
- Construction
- Joint development and production with other government agencies and foreign countries

DAWIA then defines a sub-set of these positions to be "critical" acquisition positions. These are the focus of most of the law. For military officers, critical positions are any position

that requires a lieutenant colonel or higher or positions for program executive officers, and the program managers and deputy program managers of major defense acquisition systems.

The second major category of DAWIA provisions involves defining the criteria for selecting military officers and civilians for membership in the Acquisition Corps of each service. Military members of the Army Acquisition Corps (AAC) must have been in the grade of at least major, have a successful career that would reasonably allow service in higher grades, have a baccalaureate degree, have four years of experience in an acquisition position, and have completed either 24 undergraduate semester credit hours from among the following disciplines: accounting, business finance, law, contracts, purchasing, economics, industrial management, marketing, quantitative methods, and organization and management or 24 semester credit hours from the person's career field and 12 semester credit hours from the disciplines listed above.

The third major set of provisions in DAWIA concerns promotions and assignments. Once an officer becomes a member of the AAC, promotions to higher grades must be made at a rate not less than the rate for all line officers of the same armed force in the same grade. Officers assigned to the critical positions of program manager of non-major and major systems and program executive officer must have graduated from the Defense Systems Management College (DSMC). These officers must have a minimum of six years, eight years, and ten years of acquisition experience, respectively. Only one year is allowed for education, including DSMC and any graduate work. Officers assigned to critical acquisition positions must also be stabilized and agree to serve in their position for three years or in the case of program managers until the first major milestone that occurs in their program after serving four years.

The law established several high-level positions with DOD and each service to manage the entire AAC. Among these are the Director of Acquisition Education, Training, and Career Development in the office of the Under Secretary of Defense for Acquisition and Technology and a Director of Acquisition Management (DACM) in the office of each service acquisition executive (SAE). For the Army, this is the Army Acquisition Executive (AAE) who is the Assistant Secretary of the Army for Research, Development, and Acquisition (ASARDA). At the service level there is also a series of "acquisition career program boards" which are to advise the DACM and the SAE of each service on managing the accession, training, education, and career development of military and civilian personnel in the acquisition workforce and in selecting individuals for their Acquisition Corps. And finally, in order to monitor all of these items, Congress added the requirement for the Secretary of Defense to report annually on all of the mandatory provisions of the law.

III. What DAWIA Does Not Say

It is important to note what DAWIA does not prescribe. There are three major items. The first can be inferred in our quick review of the law above. The term "career field" is not defined in DAWIA. Acquisition positions belong to one of eleven areas. Individuals in the AAC have a series of qualifications and standards that they must meet. However, there is no legal linking of those two -- the positions and the personnel. There is one exception. Since 1 October 1993, a critical acquisition position must be filled by a member of the AAC. However, there is no requirement for this type of match in each acquisition position area.

DOD did define the term "career field" in its series of implementing directives. On 15 October 1991, DOD issued DoD Directive 5000.52, titled Defense Acquisition Education,

Training, and Career Development⁷, and on 15 November of 1991, DOD issued the companion manual DoD 5000.52-M, titled Career Development Program or Acquisition Personnel.⁸ The manual formally links the positions and the people by defining a "career field" and then prescribing certification standards for each acquisition career field. A "career field" is as "one or more occupations that require similar knowledge and skills."⁹ This is amplified by listing the twelve acquisition career fields for DOD. The standards are written in terms of three acquisition career "levels"¹⁰ -- (I) entry or basic; (II) intermediate; and (III) senior. The certification standards for each level in each career field are in the appendices¹¹ of the manual and there are three categories for each level -- experience, training, and education. The experience and training are usually *mandatory*, whereas the education is *desired*. In general, each career field for military officers requires 12 months experience for level I (these are primarily positions for LTs and CPTs), 24 months for level II (these are primarily positions for MAJs, however membership in the AAC requires 48 months), and 48 months for level III (and these are for critical positions, therefore for LTCs and above). The mandatory training requirements relate to specific courses at DSMC.

In the Army's implementing instructions¹² this level of management detail is provided by annotating each acquisition position with a specific career field and level. "Officers *should* meet the position's requirements [i.e. the mandatory experience and/or training] prior to assignment, however where this is not possible, officers assigned to non-critical positions have 18 months in which to meet the requirements and officers assigned to critical positions have six months."¹³ The latter is a DAWIA requirement. The former is a DoD 5000.52-M requirement. Any violation of these provisions requires the service to request a waiver to DOD. In the mandated report to Congress, DOD has adopted the term "encumbered" position to describe an acquisition position

occupied by a certified member of the Acquisition Corps.¹⁴ This means the officer has met the mandatory experience and training requirements within the above time windows without a waiver. Since the education requirements are *desired* an encumbered position does not mean that the officer in that position has met the desired educational requirements of the career field standards in the appropriate appendix of DoD 5000.52-M.

The second major item that is not mentioned in DAWIA, the DOD directive, nor manual is guidance on promotions, except for the previously mentioned provision that the overall promotion rate for Acquisition Corps officers shall meet or exceed the overall rate for the rest of the Army's officers. This is achieved in the Army by establishing promotion floors in the letter of instruction to the board. These floors are written by branch/functional area. The functional areas of the AAC are FA51, Research, Development, Acquisition; FA53, Automatic Data Processing; and FA97, Contracting. The floors are not written by acquisition career field specifically unless the members of one of the functional areas largely map over into one of the career fields. This is true for FA53 and FA97 which map into the career fields of contracting and communications-computer systems. Using the Army's Fiscal Year 1996 (FY96) Military Acquisition Position List (MAPL)¹⁵ we find that 99% of the contracting career field positions are FA97 positions (395 out of 399). 92% of the communications-computer systems career field positions are FA53 positions. For those two career fields there appears to be a complete linkage from the management ideas of DoD 5000.52-M and the Army's promotion system which is written in terms of functional areas.

For FA51 the situation is completely different. 86% of the program management (PM) positions are FA51 (703 out of 818), 67% of the systems planning, research, development, and engineering (SPRDE) positions are FA51 (217 out of 323), and 85% of the test and evaluation

engineering (TEE) positions are FA51 (194 out of 228). So who gets promoted to COL in FA51? As we will see below, the answer is that the centrally-selected program managers (PMs) and acquisition commanders (ACs) get promoted in FA51 (and FA 53 and FA97 as well).

DAWIA clearly emphasizes the program manager career field. It is the first type of acquisition position mentioned and the myriad of special requirements for the development, consideration, selection, and assignment of program managers clearly indicates this intent. The only other career field for officers that receives any special attention in DAWIA is contracting. Considering the problems with the promotion floors and the desired instead of mandatory educational goals of the career fields, it is not obvious if the officers who are entering the AAC with certifications in any of the nine other acquisition career fields will be promoted beyond the grade of LTC. With that as a premise it is not obvious that COLs of the AAC will have any expertise besides program management, contracting, and communications-computer systems.

There are two possible ways around this potential problem. First, the officers of the AAC could all be developed as indicated above and this will also allow them to adequately fill positions in the nine other career fields as needed by the Army. As we have noted this is quite possible as the career field level mandatory requirements for each acquisition position are so general that officers developed as PM/AMs can easily fill these positions within the 18 or 6 month windows. Officers who are developed and certified in the nine other career fields will be forced to qualify as PM/AMs in order to enjoy the promotion rates dictated by DAWIA. The other possibility is that military officers will not be utilized in the other areas besides program management, contracting, and communications-computer systems. If this occurs then the only letter of the acronym for the

title of Functional Area 51, RD&A, that will have any meaning is the “A.” The Army will have no military officers present in its research and development facilities.

The third major thing that DAWIA does not specify is the acquisition strategy it is to support. This is inferred by noting that neither the law nor the DoD 5000.52 directive nor its manual prescribe the exact numbers and mix of acquisition positions among the twelve areas. Each Service Secretary determines this mix by presumably assigning these valuable personnel assets to support his or her acquisition strategy. The major goal of this paper is to assess the match between the provisions of DAWIA/DoD 5000.52-M and the present DOD acquisition strategy. First, we must review the basic model of the material development process. This model is the basis for the present acquisition strategy.

IV. The Life Cycle Cost Model of Material Development

The model that DOD uses to describe most types of material development is depicted in the figure below:¹⁶

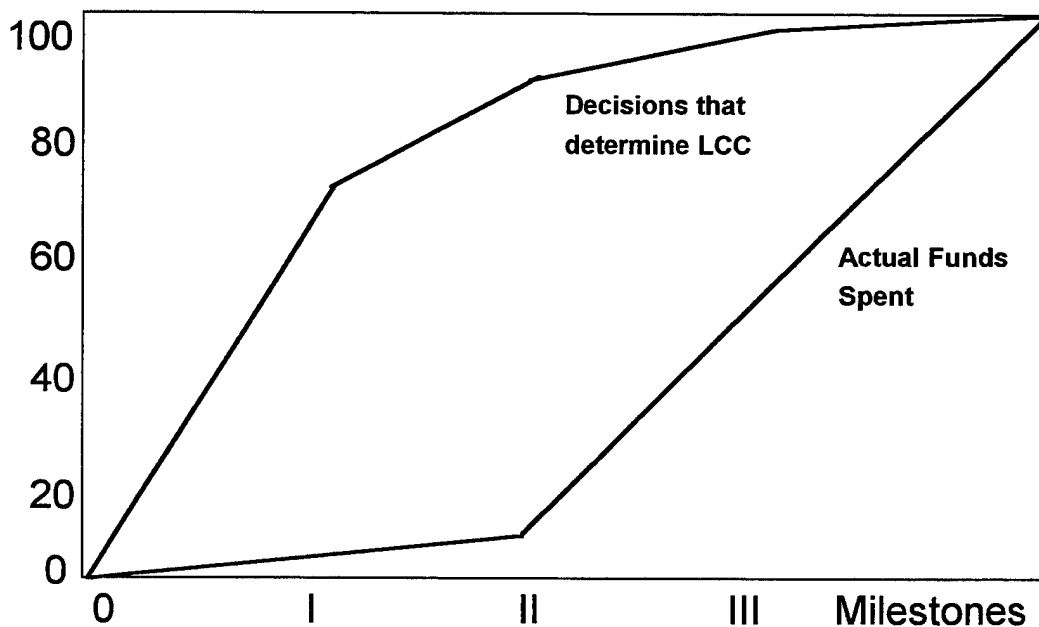


Figure 1. Life Cycle Cost Model of the material development cycle.

The vertical axis of the chart is marked in percentages. The horizontal axis is marked with the major milestone decision points of the acquisition process: Milestone 0 -- concept studies approval, Milestone I -- concept demonstration approval, Milestone II -- developmental approval, and Milestone III -- production approval. (Milestone IV -- major modification approval is not shown.) The two curves qualitatively represent two basic trends shared by most acquisition systems. The lower curve depicts the cumulative amount of funds spent on the system. The curve indicates that most of the expense occurs after Milestone II. This is not surprising as that is when large amounts of funds are used to procure the systems for distribution to the field units. The upper curve depicts the cumulative amount of decisions that determine the total life cycle cost of the system. The curve indicates that a large amount of those decisions (70%) are made before Milestone I and that almost all of the decisions (90%) are made before Milestone II. This is also not surprising as the time in between Milestone 0 and those first two Milestones is when the design of the eventual system is researched, developed, and tested. Present doctrine indicates that a program has evolved enough to be supervised by a program manager when Milestone I has been successfully completed. Project management training and education standards therefore emphasize the post-Milestone I activities of the LCC model. Contracting training and education standards emphasize all activities of the model. SPRDE and T&E emphasize the pre-Milestone I activities.

There is one major exception to the LCC model -- software development. Almost all of the decisions and costs occur before Milestone I as the actual production of software is the minimal expense of disk copying. The real expense is hiring the expertise to develop the software.

We will ignore this version of the model in the rest of our analysis and note that its personnel effects are largely confined to the communications-computer systems career field and FA53.

V. Acquisition Strategy

The present acquisition strategy was announced by then Secretary of Defense Richard Cheney in 1992.¹⁷

“The old U. S. acquisition strategy placed a premium on rapid development and procurement of new systems to counter rapidly evolving Soviet capabilities. ...Under the new U.S. acquisition strategy, there will be heavy emphasis on government-supported R&D to maintain the technology base. More work will be done with prototypes to demonstrate capabilities and prove out concepts. We plan to go to [production] on fewer systems, and only after having taken the time to prove out the concept. We will rely more often on inserting new capabilities into existing platforms and upgrades, instead of building totally new systems. We will also place greater emphasis on producibility of systems and manufacturing processes.” (Italics added)

This strategy has been continued and linked to the LCC model by the Clinton administration. Dr. Paul G. Kaminsky is the current Under Secretary of Defense for Acquisition and Technology. He had this to say in recent testimony to Congress:¹⁸

“Today, I describe a vision of a second but related revolution -- a ‘Revolution in Military Acquisition Affairs’ -- or RMA2. . . The first component of this revolution is the Department’s increased focus on life cycle cost reduction. The Department is shifting away from a world where performance is the only consideration and towards a more balanced ‘cost of performance’ view. I am pleased to report that weapon system life cycle cost is being treated as an independent variable, not simply as a fall-out dependent variable. As the Department’s senior acquisition executive, I chair the Defense Acquisition Board (DAB) along with Admiral Owens who, as Vice Chairman of the Joint Chiefs of Staff, wears another hat as chairman of the Joint Requirements Oversight Council (JROC). . . Our attention is not focused on the initial acquisition cost. We are concerned with overall life cycle cost. This emphasis is driven by the fact that 60-70% of most weapon system’s costs are incurred subsequent to initial deployment of the system.”

The model behind these statements was presented in the past section -- the Life Cycle Cost Model. With the post-Cold War realities of the federal budget the DOD will be able to start systems development (after Milestone I) on fewer and fewer programs. The decision to go past Milestone I must be made after the absolutely best technology and most-proven design has been found, tested, and validated. Duplication of effort across the services will not be possible. This is the area where civilianization of military positions is not acceptable. The synchronization of warfighting concepts, experiments, and ultimately material requirements is a military responsibility. We take this as the reason why there are military officers in the AAC at all. The answer is not unique to the AAC. We have senior military officers in any activity outside their traditional branches whenever it is necessary to present the voice of a military commander in the activities in which they have been placed. Whether as a defense attaché in a foreign embassy in the functional area of "foreign area officer" (FA48) or the director of an Army RD&E facility in the functional area of "research, development, and acquisition" (FA51), those officers are placed there to look from the soldiers' point of view and represent all soldiers anywhere they may be.

In recent years there have been both DOD and DA efforts to reorient material development towards the pre-Milestone I side of the Life Cycle Cost Model. In 1987, the Defense Science Board¹⁹ recognized the need to involve the warfighting community in the research and development process at an early stage and they advocated developing an advanced operational test much earlier than had occurred in the past -- the Advanced Concept Technology Demonstration (ACTD). A high-level "commission" was created of warfighting and resource experts to work in concert with the Defense Acquisition Board to synchronize material requirements across all of DOD -- the Joint Requirements Oversight Council, chaired by the Vice

Chairman of the Joint Chiefs of Staff. The Army's Science & Technology Master Plans from 1990 through 1995 reveal that the Army has erected similar demonstrations known as Advanced Technology Demonstrations (ATDs) and oversight commissions known as the Army Science & Technology Working Group (ASTWG). Recently, TRADOC, ASARDA, and AMC stated a vision of the Army's reorientation in these matters by proposing the creation of *interdisciplinary* groups called Integrated Concepts Teams (ICTs) and Integrated Requirements Teams (IRTs). These groups will orchestrate the Army's transition from the old linear material development process of the Cold War to a more holistic material development process for the future.

Does DAWIA/DoD 5000.52-M support this new acquisition strategy of extensive experimentation in the development of material requirements before committing to actual acquisition of a system? The premise we take is that one would expect to see a rough balance of personnel assets in FA51 among the PM, SPRDE, and TEE career fields. This premise is valid as we note again that the mix of positions among the career fields of DAWIA/DoD 5000.52-M is determined by each service secretary. During the Cold War, when the acquisition strategy depended on "rapid development and procurement" one would expect to see the great majority of the FA51 officer assets devoted to PM at the expense of SPRDE and TEE.

This strategic issue of matching assets to objectives has been complicated by the downsizing of the Army throughout the period 1990 to the present. However, during such difficult times a focus on the strategic goals of an organization is overwhelmingly important. Downsizing or upsizing periods allow senior leaders the rare opportunities for fundamental structural change as well as the more natural pressure to preserve previous ways of operation.

VI. The Military Force Structure of the Army Acquisition Corps' Career Fields

In this section, we look at the AAC's encumbered critical positions in the career fields as reported by DOD in their annual report dated February, 1995.²⁰ We make this analysis easier by making a series of simplifying decisions. We limit the analysis to encumbered critical positions only. These are the positions that the personnel management system of DAWIA/DoD5000.52-M is designed to fill after the developmental positions at the grades of CPT and MAJ. The annual report to Congress requires precisely that information -- critical encumbered positions. The numbers of encumbered LTC, COL, and GO positions in each acquisition career field provides a first cut at the force structure of each career field. We make two further simplifications forced by reality in one case and choice in the other. The reality is that military officers in the AAC are encumbered in critical positions in only five of the DAWIA/DoD 5000.52-M career fields. These are:

- Program management (PM)
- Communications -- Computer Systems (CCS)
- Contracting (C)
- Systems planning, research, development, engineering (SPRDE)
- Test and evaluation engineering (TEE)

In addition, DoD 5000.52-M introduces two additional types of positions but does not define a career field for them -- program management oversight and education, training, and career development.²¹ The actual report submitted to Congress consolidates program management, program management oversight, and communications/computer systems into a category entitled Acquisition Management. We have chosen to ignore the encumbered critical positions in the CCS and C career fields for three reasons. Contracting officers are present throughout the material development process so their presence doesn't affect the mix that we are

trying to assess. Many CCS officers work primarily with a type of material acquisition that doesn't follow the standard LCC model presented in Section IV that is the basis of the present acquisition strategy. We also ignore the positions involving education, training, and career development, production/quality, and acquisition logistics as there are only 29, 3, and 3 encumbered critical positions in each of those career fields. The match between personnel assets and strategy will be determined by the following three categories that are dominated by FA51 officers:

- Program management and program management oversight (PM)
- Test and evaluation engineering (TEE)
- Systems planning, research, development, engineering (SPRDE)

The first set of results are displayed below in two different sets of charts. One final definition is required. The annual report splits each career field into military and civilian positions by grade and also by an additional criteria called "division head." This term is loosely used in DAWIA but is only defined in the DoD Directive 5000.52. A division head is "the official in a critical acquisition position with responsibility for managing an acquisition program or major subordinate unit, the mission and function of which is to support or administer acquisition functions."²² That is less than illuminating. The working definition in the Army is that a division head is "generally an official in a critical acquisition position with responsibility for managing an acquisition organization or those elements of a major subordinate unit charged with providing matrix support to an acquisition organization. The intent is to convey that a position has significant responsibilities and duties associated with executing acquisition missions."²³ One can only interpret this for military officers in critical positions as being indicative of "command" positions or at the minimum "centrally-selected" program managers.

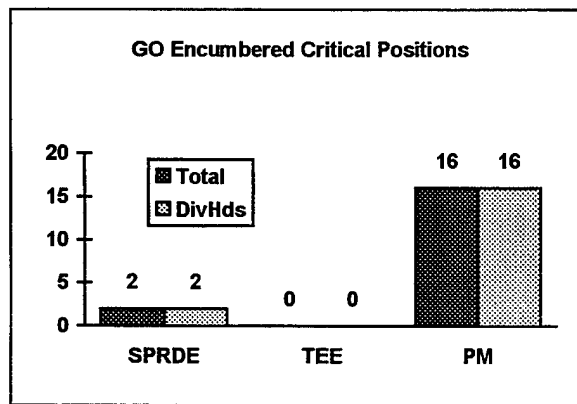
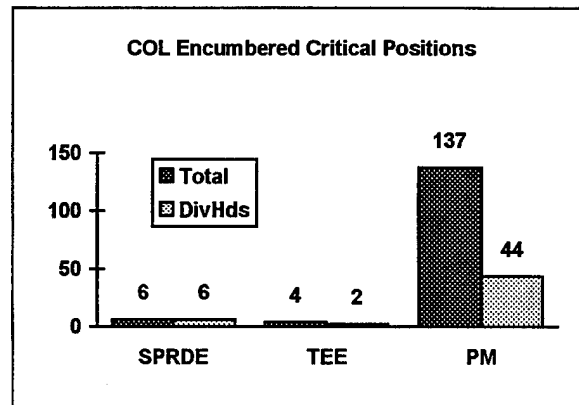
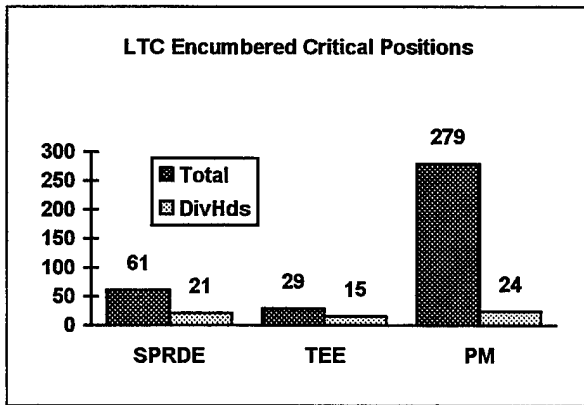
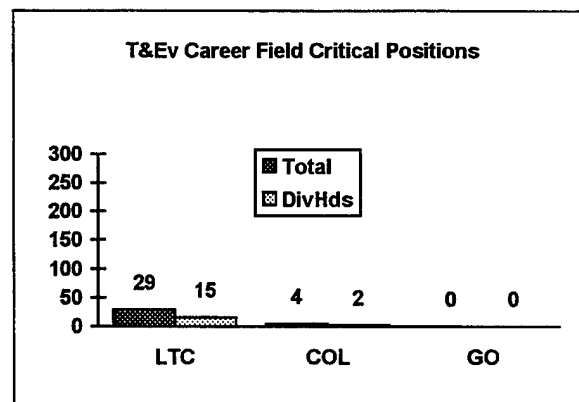
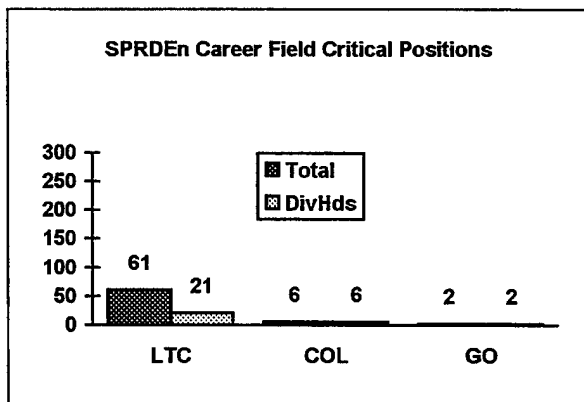


Figure 2. Encumbered Critical Military Acquisition Positions by grade and then by career field. *(The vertical scales are not the same for any of the charts)* (a) LTC positions (b) COL positions (c) general officer (GO) positions.



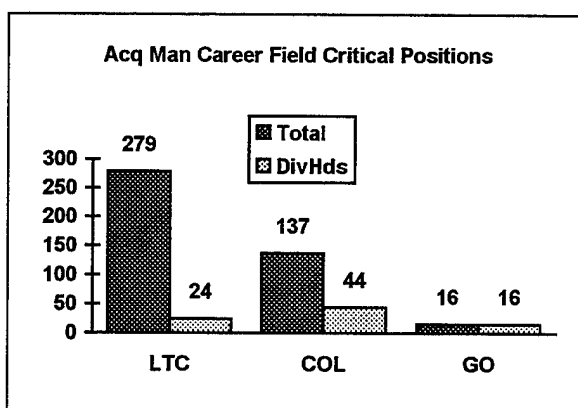


Figure 3. Encumbered Critical Military Acquisition Positions by career field and then by grade. (The vertical scales are the same for any of the charts) (a) SPRDE positions (b) TEE positions (c) PM positions.

These charts demonstrate the overwhelming dominance of the PM career field. At the LTC level PM has 9.6 times as many encumbered positions as TEE (279 to 29) and has 4.6 times as many encumbered positions as SPRDE (279 to 61). At the COL level PM has 34.2 times as many encumbered positions as TEE (137 to 4) and has 22.8 times as many encumbered positions as SPRDE (137 to 6). At the GO level, PM has 8.0 times as many encumbered positions as SPRDE (16 to 2). TEE has no encumbered positions at the GO level. Curiously, the numbers of division head positions at the LTC level are 24 for PM, 15 for TEE, and 21 for SPRDE. These numbers are roughly equal at this scale. The numbers of division heads at the COL level are 44 for PM, 2 for TEE, and 6 for SPRDE. In principle Figure 3 represents the force structure of each career field at the senior levels. However, as we have noted above the promotion potential implied by these force structure charts may or may not be tied to qualifications in each career field. We have no way of knowing at this stage if the actual members of the AAC occupying each position of each career field gained their certification in that career field through a career of

developmental assignments in that field or through an added certification after being assigned to the position.

For the moment, we will assume that the latter is not the case so that the officers in the LTC positions were previously assigned as MAJs and CPTs to positions in the career field and similarly for the COL and GO positions. If this were the case then the officers in SPRDE have a roughly 10% chance making COL from LTC (6 out of 61) and a 33% chance of making GO from COL (2 out of 6). The officers in TEE have a roughly 14% chance making COL from LTC (4 out of 29) and no chance of making GO from COL (0 out of 4). The officers in PM have a roughly 49% chance making COL from LTC (137 out of 279) and a 12% chance of making GO from COL (16 out of 163).

Only the PM career field comes close to the standard DOPMA rate of 50% from LTC to COL. The disparity in these numbers must be driven by something besides the numbers of officers serving in division head positions at the LTC level which are roughly equal. The disparity is due to the gross imbalance between the number of encumbered positions at the COL level. We conclude from this evidence that the SPRDE and TEE career fields do not represent viable career fields past the grade of LTC. The combined total of COLs for SPRDE and TEE is 10 compared to 163 for PM. If you are a FA51 COL you are 16 times more likely to be in the PM career field than in SPRDE or TEE. The combined total of LTCs for SPRDE and TEE is 90 compared to 279 for PM. If you are a FA51 LTC you are 3 times more likely to be in the PM career field than in SPRDE or TEE.

The present strategy calls for a greater emphasis (compared to the past) on the pre-Milestone I activities of the material development model. Doctrinally, the PM career field is

oriented towards the post-Milestone I activities of the material development system. From this analysis of force structure it would seem that the Army is placing about 68% of its FA51 LTCs and 94% of its FA51 COLs in post-Milestone I activities. This present imbalance indicates that the Army may be still pursuing an acquisition strategy that is similar to that of the Cold War as opposed to the post-Cold War acquisition strategy discussed in Section V.

This statement rests on the assumption that PM encumbered positions are not being used in pre-Milestone I activities. That assumption is not valid as almost any current or past program manager will tell you. Program managers are often pushed into pre-Milestone I let alone pre-Milestone 0 activities.²⁴ Therefore this imbalance is only serious if the certification requirements for the PM career field do not include training, education, or experience in managing pre-Milestone I activities that by their very nature are more oriented towards science and engineering than business.

VII. The Training and Educational Requirements of the Army Acquisition Corps' Career Fields

The training requirements are easy to assess. As we discussed in Section II, DoD 5000.52-M dictates mandatory training courses for each level. Since we are looking at encumbered level III critical positions without waivers, the officers in these positions have met the correct training requirements in the eyes of the law. Whether those required courses at DSMC even address pre-Milestone I management and supervision is outside the scope of this study. A short and unofficial poll of recent PMs in USAWC Class of 1996 indicates that those courses do not cover pre-Milestone I activities in any appreciable depth.²⁵

We can assess the *desired* educational standards of the encumbered critical positions of the PM, TEE, and SPRDE career fields by examining the advanced civil schooling educational codes for each position. These are located on the Military Acquisition Position List (MAPL). For FY96 the results are shown below:²⁶

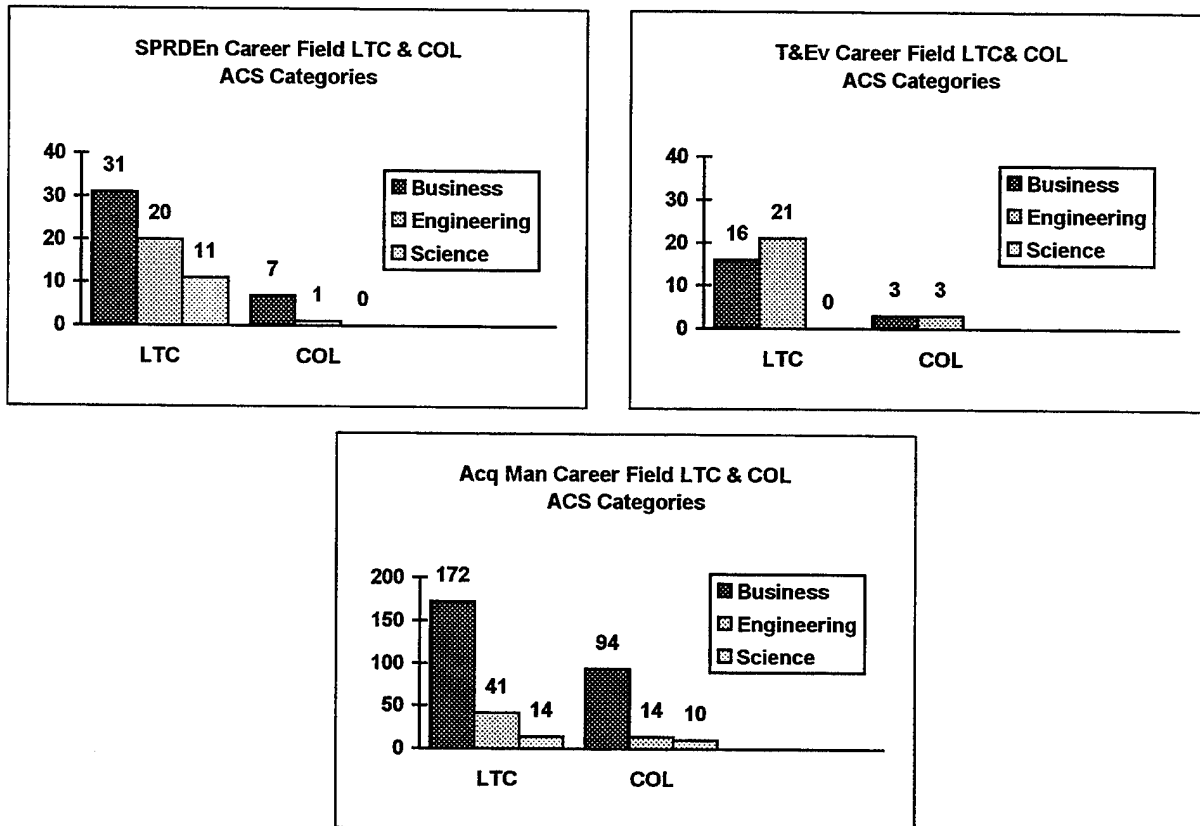


Figure 4. Advanced Civil Schooling Categories of critical military positions -- by career field and then by category. *(Note that the vertical scales are not all the same)* (a) SPRDE (b) TEE and (c) PM.

These charts present some strange data. In all three career fields the number of desired advanced civil schooling (ACS) degrees in business exceeds or equals the number of advanced civil schooling degrees in engineering or science, except for the LTCs in TEE! In fact, there is

only one position at the COL level in either SPRDE or TEE that desires a science degree. One would expect that in PM, but to find it in SPRDE and TEE is surprising. However, there is a clue to what is happening. There are more ACS degrees desired for LTCs and COLs in engineering and science in PM (79) than in SPRDE and TEE combined (56). This indicates that the ACS degrees are not an actively managed element of the SPRDE and TEE MAPL positions and we probably know why -- these degrees are desired not mandatory by DoD 5000.52-M.

There is another way to look at this last fact, however. Due to the lack of promotion opportunity in SPRDE and TEE, those officers who enter the AAC with technical degrees, probably discover that they must become qualified and selected as program managers to make COL. In order to match that critical position's requirements within six months they have submitted changes to the MAPL to change the ACS codes to match their personal degree. In order to firm up that possibility we must look at promotion patterns. This is actually some good news as it indicates that the possibility of utilizing PM officers in pre-Milestone I activities is not necessarily ill-advised on educational degree grounds. There appear to be a large number of LTC and COL positions in the PM career field that desire to have technical degrees. Because of the oft-repeated definition of an encumbered position matching a person with the mandatory (i.e. experience and training) requirements for level III certification and not the desired educational requirements, we cannot use the present data to conclude whether or not these LTCs and COLs actually exist. That data will have to be gained from a longer study with access to personal data on the senior officers of the AAC.

VIII. The Promotion Patterns of the Army Acquisition Corps' Career Fields

The analysis of promotion patterns should be confined to the promotions from LTC to COL in the career fields of PM, SPRDE, and TEE that we have been following as that is the crucial promotion at this level. Unfortunately, most of that data is personal in nature and difficult to obtain. We content ourselves to note the published results of the FY96 COL promotion board whose results were released in November 1995.²⁷ There were 72 FA51, 53, and 97 officers in the primary zone and 34 were selected for a 47.2% rate. The Army-wide rate was 44.4%. By functional area the results were 23 out of 48 selected (47.9%) for FA51, 7 out of 16 (43.7%) for FA53, and 4 out of 8 (50.0%) for FA97. The minimum selection floors for promotion that were given to the promotion board in its Letter of Instruction were 21 for FA51, 7 for FA53, and 4 for FA97. There were only two officers selected above these floors. These floors are obviously important to the future of the AAC.

The *Army RD&A* magazine notes that of the 34 officers selected, 31 were current or previous centrally-selected product managers or acquisition commanders. Of the 39 officers who were not selected, 13 were former or serving program managers (PM) or acquisition commanders (AC) and the remaining 26 had not served as either a PM or an AC. In other words, the selection rate for non-PM/ACs was 3 out of 29 or 10.3%. The selection rate for PM/ACs was 31 out of 44 or 70.5%. The rate for non-PM/ACs matches our force structure projections for SPRDE and TEE in Section VI of this paper where we inferred a roughly 10 to 14% rate. The rate for PM/ACs exceed our force structure projection for PM in Section VI where we inferred a roughly 50% rate. As the magazine states in its "Trend?" section -- "Clearly, centralized selection and

success as a lieutenant colonel level PM and/or acquisition commander are the keys to competing for promotion to colonel.²⁸

This quick look at the promotions to COL should also indicate the following. The vision of DoD 5000-52-M in creating career fields with rigorous certification standards has not been totally linked with the central system for officer personnel management -- the promotion system. The missing element that makes the SPRDE and TEE career fields almost meaningless is the lack of promotion floors by sub-specialty in FA51. If the Army wants these two career fields to become more than a curiosity then the fixes required are quite simple -- provide many more positions at the grade of COL, develop organizations and structures that will allow the LTCs and COLs to have some centrally-selected PM-type positions, and give them promotion floors associated with those career fields.

IX. Conclusions

The AAC has clearly placed most of its non-contracting and non-computer science personnel assets into the program management career field (PM). The career fields of SPRDE and TEE essentially end at the grade of LTC. The total number of COL positions is 12 in SPRDE and 7 in TEE respectively. (These numbers are slightly different from the charts in Section VI as not all of those positions have qualified officers assigned, i.e. are encumbered.) There are 142 COL positions in PM.

Does this structure place the military personnel assets of the AAC in serious mismatch with the acquisition strategy? Unfortunately, we must answer possibly. It seems unfortunate that officers with technical degrees must work around the system and seemingly not use their

education by converting to the PM career field in order to have a chance of making COL. However, the number of COL positions with desired technical degrees is surprisingly large and the Army can have military officers involved in the decision-making, management, and leadership of pre-Milestone I activities if those officers actually exist. In any case, this is not an optimum way to develop officers for the present acquisition strategy which seeks to emphasize the experimentally driven decision-making and planning that occurs in the pre-Milestone I activities of the material acquisition process. Taking time out to become a PM at the LTC level so that one can make COL is important to the officer and his family, but it seems an odd way to implement the national acquisition strategy.

Recently²⁹ it was announced that the AAC intends to manage with a single functional area. The idea behind this seems to be the effort to make all LTC and COL positions as independent on the old functional areas of 51, 53, and 97 as possible. This will destroy the linked personnel management system between FA97 and the contracting career field. In our view this action will only codify what has been occurring in the FA51 and 97 functional areas and the career fields to which they are linked. The "gate" of going through a centralized-selection process for program management of acquisition command positions will still be in place to make the statistics for selection to COL unchanged from the present system.

Curiously, during most of the time that the present structure of the AAC was being determined the Army Science Board was again assessing the educational trends of the officer corps. This study was started in February 1994 by Mr. George Dausman, then Acting ASA(RD&A), LTG Forster, then DACM, and Mr. George Singley, then DAS-RT, who noted:³⁰

“The necessary reshaping of the Army in the face of reduction in dollars and people requires new reliance technology and a new technology strategy. The high tech systems will require a new breed of officers and civilians with a high tech background ready to support the Army of the future.”

This study team was not composed of a set of invited academics as was the 1982 ASB team. This study team included GEN(ret) Louis Wagner, Jr., GEN(ret) Edwin H. Burba, Jr., GEN(ret) Lawrence A. Skantze, and LTG(ret) William H. Reno among others. They concentrated their efforts this time not on the workforce of the RD&A activities they had studied in 1982, but on the combat development activities at the Armor and Aviation Schools. Even though they concentrated on those activities, they did examine the changes in the RD&A community since 1982 when they found over 40% of the assigned officers having no degrees in science, engineering, or business. This paper shows that the concerns over lack of business degrees is no longer a problem. The ASB final report was released in February 1996. Their findings mirror our concerns and they say them well: (In the quotes below, the ASB uses the acronym SM&E for science, math, and engineering.)

“The Army must have a base of SM&E educated officers infused throughout the force, to include the line force.”

“Officers with varying levels of education in SM&E are vital links in the bridging of technology from its pure form into systems that can be applied on the battlefield.”

“Unfortunately ground has been lost in the Army’s uniformed SM&E capabilities in the last fifteen years.”

“The current AMC downsizing effort has favored logisticians and acquisition officers, while SM&E officer positions have been decimated.”

“SM&E proponents have not translated the requirements for SM&E educated officers into a definition of spaces and faces to produce personnel structures with adequate quantity and quality.”

“Because not all warriors will become dual-track SM&E officers, senior leaders will need a few single track SM&E officers to fully optimize the capabilities of the force and to understand the potential of future technologies. As an institution, the Army needs its SM&E officers to more effectively bridge combat development, materiel development, and technology implementation in field operations. However, this ‘bridging’ has not been constructed as a principle; it has not been addressed effectively as a capability of enormous value to the Army; and its potential has not materialized in an Army whose strength has traditionally been derived from its people and its technology.”

“Critically, at this time in history, the personnel programs that guide the Army’s reduction in force have not supported the group of officers who, in the past, committed to career tracks in the sciences.”

In the 1994 Army Science and Technology Master Plan,³¹ the need for an organization that would specialize in the technology transfer and integration activities of the pre-Milestone I arena was recognized. The ASTMP announced that a new organization called an Advanced Systems and Concept Office (ASCO) was to be established under the Tech Director of each of the Army’s Research, Development, & Engineering Centers. These offices were to be headed by a COL and were to specialize in bridging the gap between the warfighter and the acquisitioneer. In 1995 most of these organizations were cut in the latest round of downsizing instead of cutting some PM organizations that have been monitoring systems long ago fielded. ASARDA has recently announced a reduction in support for advanced civil schooling. The latest *Army RD&A* magazine notes that officers will be given funds to begin an advanced degree program on their own time. “The FY96 MAPL requirements support significantly increasing the number of computer science/information technology degrees and decreasing the number of business and engineering/science degrees.”³²

The Army of the next century is predicted by many to be dominated by technology. This short study concludes that the trends the ASB has noted in the line force about the declining

technological sophistication and education of the officer corps is also probably true about that part of the officer corps that is supposed to be developing and acquiring that technology. The AAC does not have its personnel assets in the correct place to support the DOD acquisition strategy. The leaders of the AAC have the power to change this within the existing regulations and laws.

ENDNOTES

- ¹ Defense Acquisition Workforce Improvement Act, Sections 1201 through 1211 of Public Law 101-510, the FY1990 Defense Authorization Bill.
- ² Department of the Army, Report of Panel on Science & Engineering Personnel, Army Science Board 1982 Summer Study, (Washington: U.S. Department of the Army, Assistant Secretary of the Army for Research, Development, & Acquisition, Nov 1982), 2.
- ³ *Ibid.*, 21.
- ⁴ DAWIA, sections 1724 and 1733.
- ⁵ Secretary of Defense Richard Cheney, "Defense Acquisition and Science and Technology Management Oversight," DOD white paper, Washington, 20 May 1992. [Quoted in Department of Defense, Defense Science and Technology Strategy, (Washington: U.S. Department of Defense, Director of Defense Research and Engineering, July 1992), I-8.]
- ⁶ DAWIA, sections 1701 through 1761. [This represents a blanket endnote for all of Section II's summation of DAWIA.]
- ⁷ Downloaded from the Internet at <http://www.dtic.dla.mil/acqed2/acqws.html>
Department of Defense, DoD Directive 5000.52, "Defense Acquisition, Education, Training, and Career Development", (Washington: U.S. Department of Defense, Under Secretary of Defense for Acquisition and Technology, 15 Oct 1991)
- ⁸ Department of Defense, DoD Manual 5000.52-M, "Career Development Program for Acquisition Personnel", (Washington: U.S. Department of Defense, Under Secretary of Defense for Acquisition and Technology, 15 Nov 1991)
- ⁹ *Ibid.*, viii.
- ¹⁰ *Ibid.*, viii.
- ¹¹ *Ibid.*, Appendices A through L.
- ¹² Deputy Director for Acquisition Career Management, COL Richard A. Grube, "Acquisition Corps Qualification Brief," memorandum for all Army Acquisition Corps Officers, Washington, 22 June 1993, Enclosure 1, paragraph 6c.
- ¹³ *Ibid.*

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- 14 Department of Defense, Report to the President and Congress, 1995, (Washington: U.S. Department of Defense, Office of The Secretary, February, 1995), Appendix F.[hereafter referred to as "Report"]
- 15 Department of the Army. FY96 Military Acquisition Position List (MAPL), (Washington: U.S. Department of the Army, ASARDA, DACM-Proponency Office), this list was given to the author in dbIV software on 12 December 1995 at the ARL AES Workshop at the DCSI4 Decision Management Facility, Reston, VA.
- 16 Department of the Army FY94 Army Science and Technology Master Plan (AMSTP), (Washington: U.S. Department of the Army, ASARDA, SARD-ZT), II-9. [Note there are numerous places to find this chart such as the DA Modernization Plan]
- 17 Cheney.
- 18 Downloaded from the Internet at <http://www.acq.osd.mil/ousda/testimonies/3.html>
Department of Defense, Statement of the Under Secretary of Defense for Acquisition and Technology before the Research and Development Subcommittee of the House Committee on National Security on "The FY 1996 DOD RDT&E Program", (Washington: U.S. Department of Defense, Under Secretary of Defense for Acquisition and Technology, 28 Mar 1996)
- 19 ASTMP, I-14 to I-18.
- 20 Report, Appendix F, the charts presented in Figures 2 and 3 were developed by the author using this source.
- 21 DoD Manual 5000.52-M, vii, para 8.
- 22 DoD Directive 5000.52, Enclosure 2, para 7.
- 23 Deputy Director Acquisition Career Management, Mr. Keith Charles, "Civilian Acquisition Position List," memorandum for all Army Acquisition Corps HQs, Washington, 28 Nov 1995, Enclosure 4.
- 24 16 former PMs or ACs in the Class of 1996, US Army War College, interviewed by author during briefing of the draft of this paper, 6 February 1996, Carlisle Barracks, PA.
- 25 Ibid.
- 26 MAPL, database analysis performed by the author.

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- 27 AAC Career Manager, "Career Development Update," Army RD&A (March-April 1996): 56.
- 28 Ibid.
- 29 Discussion with COL Rosner, Head, AAC Proponency, HQDA, 3 April 1996.
- 30 Department of the Army, Final Report "The Science and Engineering Requirements for Military Officers and Civilian Personnel in the High Tech Army of Today and Tomorrow", Army Science Board Ad Hoc Study, (Washington: U.S. Department of the Army, Assistant Secretary of the Army for Research, Development, & Acquisition, February 1996).
- 31 ASTMP, I-8,9.
- 32 Army RD&A, 54.

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