DEFENSE ACQUISITION STRUCTURES AND CAPABILITIES REVIEW

REPORT
JUNE 2007

PURSUANT TO SECTION 814, NATIONAL DEFENSE AUTHORIZATION ACT, FISCAL YEAR 2006

Executive Summary

Section 814 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2006 directed the Defense Acquisition University (DAU), under authority of the Under Secretary of Defense for Acquisition, Technology and Logistics, USD(AT&L), to review acquisition structures and capabilities of the Department of Defense (DoD). This review included the military departments, defense agencies, and other DoD organizations with significant acquisition functions. In light of recently completed reports[1] that addressed broader acquisition issues, this review focused on organizational structures and workforce. The scope included surveying 63 organizations in the military departments, 17 defense agencies and field activities, and 2 combatant commands, and interviewing 46 executives and thought leaders in related fields. Also, more than 150 reports, books, and documents were reviewed along with DoD acquisition program outcomes over the past 25 years.

This is the most comprehensive review of DoD acquisition workforce since the congressional studies leading to passage of the 1991 Defense Acquisition Workforce Improvement Act (DAWIA). This report, which presents the results of the review, covers three major areas: organizations, workforce, and recommendations.

ORGANIZATIONS

A review of defense acquisition structures and capabilities from 1985 to 2006 revealed that DoD leaders have used organizational changes as a management tool to achieve various objectives. While acquisition missions are fundamentally the same within the military departments, their organizational structures are significantly different. These differences, primarily due to cultural and leadership style, have neither positive nor negative implications. Each has a different workforce capability construct relative to career field mix, workforce size, and military

[1] *A Report by the Assessment Panel of the Defense Acquisition Performance Assessment Project for the Deputy Secretary of Defense*, Defense Acquisition Performance Assessment Panel, January 2006; *Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era Phase 2 Report*, Center for Strategic and International Studies, July 2005; and *Defense Science Board Summer Study on Transformation: A Progress Assessment, Volume I and II*, Defense Science Board, February 2006.

composition. Most use support contractors to assist in the accomplishment of the acquisition mission.

The review found DoD acquisition organizations are continuously evolving to create better management structures. However, structural changes alone do not appear to influence acquisition outcomes, favorably or unfavorably. Also, metrics are seldom used to measure and track expected benefits or results when making organizational changes.

The most significant organizational changes over the last 25 years include creating the Under Secretary of Defense (Acquisition),[2] now the USD(AT&L); establishing the program executive office (PEO) structure; reducing the number of four-star acquisition commands; and dual-hatting the Under Secretary of the Air Force as DoD Executive Agent (EA) for Space acquisition. These and other changes are described in more detail below:

- In 1986, the Packard Commission recommended establishment of an under secretary for acquisition as the Department's senior official to provide overall supervision of the defense acquisition system. Congress implemented this recommendation by creating the Under Secretary of Defense (Acquisition), merging several existing offices. This structure has changed over the years to reflect the maturing complexities of the acquisition process.

- Since 1987, the Army has consolidated several major subordinate commands under the Army Materiel Command (AMC). The number of Army PEOs decreased from 22 in 1987 to 10 in 1991. Between 2004 and 2006, most of the Army's PEOs were aligned under a Life Cycle Management Command (LCMC) structure with some dual-hatted as commanders or deputy commanders.[3]

- The Navy eliminated its four-star Navy Materiel Command in 1985 and aligned its system commands (SYSCOMs) with Headquarters, Department of the Navy. In 1987, the Navy dual-hatted its SYSCOM commanders as PEOs. Between 1990 and 1991, the PEO structure was re-established independent from, but affiliated with the SYSCOMs. Notwithstanding some changes as programs mature and other programs come online, this PEO structure has remained essentially the same. Currently, the Navy is implementing an enterprise organizational model to better align requirements, resources, and force providers.[4]

- In 1987, the Air Force dual-hatted the Air Force Systems Command (AFSC) product division commanders as PEOs. In 1991, the Air Force created PEOs independent from the product divisions and stationed them

[2] Public Law 99-348, *Military Retirement Reform Act of 1986*, July 1, 1986.

[3] FY 2006 NDAA Section 814 Report, Army Annex in the Addendum.

[4] FY 2006 NDAA Section 814 Report, Navy Annex in the Addendum.

at the Pentagon with the Assistant Secretary of the Air Force for Acquisition. In 1992, the Air Force merged two four-star commands—AFSC and Air Force Logistics Command (AFLC)—to create the Air Force Materiel Command (AFMC), eliminating one four-star billet from acquisition organizations. In 2003, the Air Force realigned its PEO structure, consolidating most PEO responsibilities under its product center commanders (dual-hatting them). Three other Air Force PEOs—the F/A-22 Raptor, Joint Strike Fighter,[5] and Combat and Mission Support—remained outside the product center commands.[6] Additionally, PEO Space Radar and PEO Environmental Systems report directly to the Under Secretary of the Air Force.

- The 2001 Space Commission[7] significantly influenced the organization and management of DoD space systems acquisition. The Secretary of the Air Force was designated as the EA for Space, an authority subsequently delegated to the Under Secretary of the Air Force. The EA for Space was given broad authorities and responsibilities over the national security space enterprise, to include designation as the Air Force Acquisition Executive for space-related acquisitions. Additionally, the Space and Missile Systems Center (SMC) transferred from AFMC to the Air Force Space Command (AFSPC) in order to enhance communications and coordination between space systems operators and the space acquisition community.[8]

- All PEOs report directly to their Service Acquisition Executives (SAEs). Although DoD Instruction 5000.2 requires PEOs to have no other command responsibilities,[9] the Army and Air Force have exceptions for their dual-hat arrangements.

- Even though the PEOs do not report directly through their Service chiefs, the chiefs approve and prioritize requirements, build program objective memorandums, and staff project offices. As a result, they have significant influence over shaping acquisition organizations.

- The Office of USD for Acquisition, Technology and Logistics, OUSD(AT&L); Defense Logistics Agency (DLA); and Defense Contract

[5] Joint Strike Fighter (JSF) rotates between Navy and Air Force SAEs: when the PEO is Navy, JSF reports to the Air Force SAE; when the PEO is Air Force, JSF reports to the Navy SAE.

[6] FY 2006 NDAA Section 814 Report, Air Force Annex in the Addendum.

[7] FY 2000 NDAA Section 1623, "Commission to Assess United States National Security Space Management and Organization."

[8] Secretary of Defense Memorandum, "National Security Space Management and Organization Implementation Guidance," October 18, 2001, provided guidance on implementation of the Space Commission recommendations, and directed the transfer of SMC from AFMC to AFSPC. The mission and responsibilities of the DoD Executive Agent for Space were codified in DoD Directive 5101.2, June 3, 2003.

[9] DoD Instruction 5000.2, *Operation of the Defense Acquisition System*, May 12, 2003.

Management Agency (DCMA) adopted PEO constructs to oversee and manage their acquisition processes.

Currently, several leadership efforts are striving to integrate organizational changes with mission-aligned process improvements to more deliberately address acquisition outcomes. They include the following:

- OUSD(AT&L) recently reorganized and streamlined its review processes to improve major program oversight and execution. Specific examples include Portfolio Management, Senior-Level Tri-Chaired investment panel for the new Concept Decision process for major programs, and Defense Acquisition Executive Summary (DAES) reviews. OUSD(AT&L) is also collaborating with Component Acquisition Executives and Senior Procurement Executives to leverage centers of excellence for improving services acquisition.

- Capability Portfolio Management is an enterprise approach which leads to a better understanding of the implications of investment decisions and should cut down on duplication of capabilities.

- OUSD(AT&L) established a management structure for consistent reviews and approval of acquisitions of services. Acquisition of service categories were established and appropriate decision authorities designated based upon estimated dollar value or special interest.

- The Navy is implementing an enterprise organizational model to improve its alignment of requirements, resources, and force providers. Enterprise-wide initiatives and organizational changes are expected to improve both execution and acquisition outcomes. These initiatives are driven by the use of single metrics, such as the Naval Air Systems Command's "number of aircraft ready for tasking."

- The Air Force Installation Contracting Realignment effort is a strategic sourcing initiative to create a more efficient and effective installation contracting organization. This initiative involves realignment of positions with workload from 71 continental United States (CONUS) installations, creating regional contracting organizations and Centers of Excellence designed to improve the efficiency and effectiveness of the contract management activities. Distinguishing characteristics of the alignment are a lead major command, creation of five regional centers, and establishment of centers of excellence.

- DLA reorganized to implement the Business Systems Modernization (BSM) initiative designed to improve end-to-end materiel, financial, and acquisition management across the enterprise. BSM fundamentally altered DLA's core business model, supporting processes, and systems architecture. In order to implement BSM, DLA created a new organizational

structure emphasizing supplier management and strategic sourcing to deliver world-class support to the warfighter.

Although early in the implementation phase, these changes are deliberately focused on improved mission success and outcomes.

Three organizational constructs for joint acquisition were reviewed:

1. Joint commands or agencies that acquire materiel for their own use or in support of other joint commands or agencies

2. Joint program executive offices (JPEOs) created for common systems required for use by two or more Services or Agencies

3. Joint acquisition programs—established with one Service or Agency designated as lead and operating in a multi-service or agency program office environment.

The second and third constructs are recognized as traditional "joint acquisition" programs. In these cases, multiple service or agency organizations join together to build synergistic effort and optimize joint resources. Previous studies, Section 814 surveys, and responses to interviews indicated that traditional joint acquisition programs present unique challenges in reaching consensus, defining requirements, obtaining funding, and receiving priority on staffing. Additionally, documenting roles and responsibilities, parochialism, and competition among lead and participating Services and Agencies are problematic.

In 2005, the Joint Tactical Radio System (JTRS) program implemented a structure that mitigated many of the problems identified above. It was chartered as a JPEO with clearly stated directive authority for management, funding, staffing, and performance rating and technical management decisions.

ORGANIZATIONAL FINDINGS

Summarized below are the organizational findings from this review:

1. **DoD acquisition organizations are continuously evolving.** Virtually all of the respondents reported that their organizations have restructured to some extent to meet their acquisition mission requirements. They were confident that their current structures are appropriate for the current requirements. In a few cases, they reported that they were in the process of reorganization to achieve the optimal structure. The most significant outcomes of most organizational changes were better mission focus and improved productivity and efficiency—not improved acquisition outcomes.

2. **Changes in acquisition organizations did not have improving acquisition outcomes as a sole purpose.** The changes were made for many

reasons, but primarily to improve work productivity and efficiency. Unless addressed, other process and organizational culture tendencies—relative to overly optimistic budget, schedule, and technology readiness forecasts—were likely to lead to programs being delivered late and over budget.

3. **Organizational change is not enough to offset other shortcomings.** Organizational changes by themselves cannot offset the requirement for adequate, consistent funding, and stable leadership. They also have not precluded the use of immature technology in acquisition programs.

4. **Joint acquisition programs have problems with cost, schedule, and performance similar to single-service programs, but they are amplified by the multi-service and -agency environment.** The restructured JTRS program features a management framework that mitigates many of these problems.

5. **Several significant organizational changes have been made over the last 25 years.** These include creation of the Under Secretary of Defense (Acquisition), now the USD(AT&L); establishment of the PEO structure; reduction in the number of four-star acquisition commands; and dual-hatting the Under Secretary of the Air Force as DoD's EA for Space acquisition.

The military departments have used reorganizations to create better visibility, improve communications, and strengthen alignment among the requirements community, the acquisition community, and their warfighters. As an example, the Army created LCMCs to "get products to the soldier faster, make good products even better, minimize life-cycle cost, and enhance the synergy and effectiveness of the Army acquisition, logistics and technology (ALT) communities."[10] The LCMC structure aligns AMC's major subordinate commands with their associated PEOs. For example, PEO Aviation and PEO Missiles and Space are aligned under the Aviation and Missile Command (AMCOM) to create the Aviation and Missile Command LCMC. Both PEOs act as deputies to the Commander, AMCOM,[11] while also reporting directly to the Army's SAE for decisions on assigned acquisition programs."[12] Other examples include the AFMC and Air Force Space Command's SMC, which recently changed their field organization structure to create a wing, group, and squadron structure.

The primary focus and benefits of most organizational changes were to improve management structure, process, efficiency, and other outcomes. Variations in organizational structure were often designed to match the organization with the program phase and nature of a program, e.g., weapon systems, information systems, or services.

[10] Memorandum of Agreement, "Life-Cycle Management (LCM) Initiative," between Assistant Secretary of the Army (ALT) and Commander, AMC, 2 August 2004.

[11] https://redstoneappsrv1.redstone.army.mil/apws/apws_home?p_cat_id=2.

[12] Memorandum of Agreement, "Life-Cycle Management (LCM) Initiative," 2 August 2004.

WORKFORCE

Each organization has a different workforce construct relative to career field mix, workforce size, and military composition. For example, the Army has an acquisition workforce of 45,443, while the Navy has 40,651 and the Air Force has 25,075.[13] Engineering[14] represents 26 percent, 41 percent, and 25 percent of those workforces, respectively; the military composition of those same workforces represents 3 percent, 10 percent, and 37 percent, respectively. Broad variations exist in workforce composition. Most Components use support contractors to assist in the accomplishment of the acquisition mission.[15]

Almost every acquisition study, including the recent Defense Acquisition Performance Assessment (DAPA) review, concluded that DoD must continue to improve acquisition workforce quality. The Department agrees with these assessments and is leaning forward to thoughtfully address workforce capabilities and shortfalls. In testimony before Congress, the USD(AT&L) committed to publish the AT&L Human Capital Strategic Plan (HCSP) 120 days after the Quadrennial Defense Review (QDR) report. In June 2006, the Department published both the DoD Civilian HCSP and the AT&L HCSP as planned. Maintaining a high performing, agile, and ethical workforce is a top priority. It is also Goal 1 of the AT&L Strategic Implementation Plan. Additionally, the AT&L Workforce Senior Steering Board (SSB) was formed to set overarching policies and requirements for the AT&L Workforce, Education, Training, and Career Development Program in support of human capital initiatives. The SSB includes Component Acquisition Executives (CAEs), senior functional leaders, and the Deputy Under Secretary of Defense (Civilian Personnel Policy). This governance structure provides strategic focus and alignment with the Components to integrate workforce initiatives. Since May 2006, four SSB meetings have been held. This forum has generated significant momentum enabling new initiatives and the exchange of best practices.

The ability of the Department to take actions now to mitigate the impact of the pending departure of the Baby Boomer workforce is a major concern. Seventy-six percent of the current civilian acquisition workforce is part of the Baby Boomer and older generations. While hiring is favorable today, especially with regard to replenishing the engineering workforce, concerns exist about availability of sufficient technical talent within the science and engineering disciplines to meet future workforce needs.

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[13] AT&L Workforce Datamart, End of FY 2006. All references to a year associate with the datamart were the end of that FY. Statistics are for military and civilians.

[14] The term "Engineering" refers to both Systems Planning, Research Development and Engineering (SPRDE) career fields further described in "The DAWIA Count" section. This term is used interchangeably with SPRDE in this report.

[15] Support contractors are hired to provide augmentation, additional capacity, and address critical skill imbalances in the acquisition workforce. See USD(AT&L) memorandum "Review of Acquisition Support Contractor Workforce Data," March 29, 2007.

DoD Total Force Construct

The Total Force is defined as active and reserve military members, civilian employees, and support contractors. Both the 2006 QDR and DoD Civilian HCSP call for managing from a Total Force perspective.[16] The Strategic Plan for the Office of the Under Secretary for Personnel and Readiness focuses on developing the right mix of people and skills through seamless integration to capitalize on the strengths of those who comprise the Total Force.[17] While the Components lead their force planning processes, their underlying processes are generally the same. DoD Instruction 1100.22 guides the determination of the appropriate mix of manpower (military and civilian) and private-sector support.[18]

DoD acquisition organizations are responsible for making effective use of their support contractors. This requirement entails understanding how contractor personnel are employed to support the acquisition workforce, a situation that is not unique to DoD. For example, the National Aeronautics and Space Administration (NASA) recently examined its total force structure and found few links between acquisition planning and workforce planning. It is now placing emphasis on the importance of integrated workforce planning to include both support contractors and its organic workforce.[19] This review concluded that NASA's current integrated planning approach is a best practice. The Department recently requested acquisition organizations to provide current information on support contractors, primarily to analyze and further improve strategic workforce planning.[20]

Additionally, FY 2006 NDAA, Section 343, "Performance of Certain Work by Federal Government Employees," requires the Secretary of Defense to prescribe guidelines for ensuring consideration is given to using government employees for work that is currently performed or would otherwise be performed under DoD contracts. These guidelines should be applied to decisions regarding use of support contractors.

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[16] DoD, *Quadrennial Defense Review Report*, February 6, 2006, and *DoD Civilian Human Capital Strategic Plan 2006–2010*.

[17] *Office of the Under Secretary of Defense for Personnel and Readiness Strategic Plan 2006–2011*, Goal 7, "Integrate the active and reserve military, civilian employees, and support contractors into a diverse, cohesive total force and a rapidly tailorable joint force structure."

[18] DoD Instruction 1100.22, *Guidance for Determining Workforce Mix*, September 7, 2006.

[19] National Academy of Public Administration, *Balancing a Multisector Workforce to Achieve a Health Organization,"* February 2007, p. 137.

[20] USD(AT&L) Memorandum, "Review of Acquisition Support Contractor Workforce Data," March 29, 2007.

Workforce Data Quality—Data Green Initiative

Acquisition workforce data quality is a DoD and government-wide issue.[21] In 2006, the Department moved from a static annual count to a dynamic analysis process to enable and facilitate acquisition workforce planning. This initiative is captured as Goal 3 of the AT&L Human Capital Strategic Plan (Version 1.0).[22] The Government Accountability Office (GAO) has developed a three-level model to assess data quality improvements. Two factors in GAO's model directly relate to this review and the AT&L Data Green initiative: (1) human capital decisions are data-driven and (2) human capital approaches are tailored to meet organizational goals. Based on an internal assessment of the 2006 DAWIA count and analysis, DoD's current efforts are rated at Level 2 with significant work required to achieve Level 3.[23] Improved data quality is a key success factor relative to strategic workforce management.

As part of AT&L Human Capital initiatives, DoD is establishing a comprehensive, recurring, and consistent workforce analysis process to support tracking, understanding, and shaping workforce strategies. This process will enable the workforce to attain the right knowledge, skills, and capabilities. New initiatives were started in 2007 to improve periodic validations, and data reconciliations are being conducted to improve data quality.

WORKFORCE DEMOGRAPHICS AND QUALITY

Generations

The AT&L workforce faces major challenges regarding new skill sets needed and the projected loss of experience and knowledge expected from retirements of the Baby Boomer generation. This national issue will likely impact every employer in America. In 2005, 50 percent of the national workforce was in the Baby Boomer and older generations. This situation is more pronounced in DoD and the AT&L

[21] The Acquisition Advisory Panel in a February 2006 draft report, noted that, "In order to understand where we stand in the enterprise of counting the federal acquisition workforce, ... there has been significant inconsistency over time." This point was also made by the DoD Inspector General in *Human Capital Report on the DoD Acquisition Workforce Count*, April 17, 2006.

[22] AT&L HCSP, June 12, 2006, Goal 3: "Establish a Comprehensive Workforce Analysis and Decision Making Capability."

[23] As summarized in GAO, *A Model of Strategic Human Capital Management*, Report 02-373SP, p. 9, GAO notes that at Level 2, the agency recognizes that people are a critical asset that must be managed strategically; new human capital policies, programs, and practices are being designed and implemented to support mission accomplishment; and at Level 3, the agency's human capital approaches contribute to improved agency performance; human capital considerations are fully integrated into strategic planning and day-to-day operations; the agency is continuously seeking ways to further improve its "people management" to achieve results.

civilian workforces where these generations comprise 71 and 76 percent, respectively.[24]

Count

During the past 20 years, DoD's acquisition workforce has been defined and counted several different ways, with the three commonly used count methodologies being the acquisition organization count, refined Packard count, and DAWIA count.

The acquisition organization count captures employees assigned to acquisition organizations regardless of their occupation. It does not include individuals performing acquisition functions outside of acquisition organizations. This count is most often used in the context of workforce reductions, although it may overstate reductions in the aggregate capability represented by the professional acquisition workforce.

The refined Packard count classifies the workforce in three categories. Personnel in Category I occupations, such as contracting, were counted as part of the acquisition workforce regardless of DoD organization. Personnel in Category II occupations, such as engineers and financial management were counted only when serving in designated acquisition and technology organizations as discussed above. All military officers assigned to designated acquisition organizations were counted as part of the workforce. Category III was added to provide components flexibility to improve the accuracy of the count. Other civilians, officers, and enlisted members performing acquisition functions, but not categorized under I or II, could be counted as part of the acquisition workforce under Category III.[25]

The DAWIA count, used today, is based directly on the incumbents' acquisition position responsibilities; it was first developed as a result of the Defense Acquisition Workforce Improvement Act.[26] For example, if position responsibilities are predominantly program management, then the position would be "coded" DAWIA–Program Management; and the incumbent would be counted in the AT&L workforce. There are 13 acquisition career fields.

Experience

Using years of service as a key indicator of experience, the AT&L workforce is the most experienced in the Department. Fifty percent of the AT&L civilian workforce have more than 20 years of experience compared with approximately

[24] DoD information from Defense Manpower Data Center (DMDC) Civilian Master files for September 2006; AT&L information from the AT&L Workforce Datamart, FY 2006.

[25] Jefferson Solutions, *Identification of the Department of Defense Key Acquisition and Technology Workforce*," April 1999.

[26] House Armed Services Committee, *The Quality and Professionalism of the Acquisition Workforce*, May 8, 1990.

40 percent of the DoD General Schedule workforce.[27] The current workforce acquired most of the major systems that led to the end of the Cold War, extended the life of many aging systems, and supported Desert Storm and numerous contingency operations around the world. These mission demands have generated a very experienced acquisition workforce.

Education

Today's AT&L workforce is highly educated, with 74 percent of the civilians having bachelors or advanced degrees, and 23 percent possessing advanced degrees. Moreover, an analysis of new hires during the past 5 years shows bachelors or advanced degrees exceeded 80 percent. Education levels of the AT&L civilian workforce[28] exceed those of their DoD civilian white-collar colleagues[29] and employees in the federal sector. Competition from the private sector is expected to increase as DoD acquisition organizations are challenged by the need for technically educated graduates who can obtain security clearances.

Many national and DoD reports have provided warnings that there will not be sufficient U.S. citizens with bachelor's and advanced degrees in science and engineering (S&E) disciplines to meet the 21st Century needs of the defense and intelligence communities.[30] Nearly 14 percent of DoD civilians are in S&E occupations, and 50 percent of DoD engineers belong to the AT&L workforce.[31] According to the National Science Foundation, there will be a 26 percent increase in the number of S&E jobs between 2002 and 2012; a growth that is three times faster than the general workforce.[32] An increased global demand for engineering talent is a related problem for DoD technical career fields. However, engineering degrees represented only 4 percent of all degrees awarded in the 2001–2002 academic year.[33] This situation will challenge DoD in maintaining its current technical excellence and technical edge.

There is a prevalence of foreign students earning advanced degrees in technical and engineering disciplines. Many are returning to their country of origin, and many others have problems with security clearances required for national security positions. There is also a projected shortfall within the millennium generation due

[27] AT&L data from AT&L Workforce Datamart, FY 2006, civilians only. DoD data from FEDSCOPE, September 2006, www.fedscope.opm.gov.

[28] AT&L Workforce Datamart, FY 2006. Statistics include only civilians.

[29] Defense Manpower Data Center Civilian master files for September 2006; data for DoD civilian, white collar employees.

[30] Department of Defense, *White Paper: National Defense Education Act of 2006*, March 10, 2006.

[31] "DoD Civilian Demographic Report, 2006, and AT&L Workforce Datamart, FY 2006.

[32] National Science Foundation, *National Science Board Science and Engineering Indicators, 2006, Volume 1*, February 23, 2006.

[33] Applied Information Management Institute, *Academic Disciplines and Employment Trends*, January 2006, p. 17.

to low high school graduation rates.[34] DoD, along with the National Defense Industrial Association and other associations, should continue to evolve ongoing discussions about joint initiatives to cooperatively work to address high school graduation rates. This is a national issue that has huge implications for future U.S. national security.

Certification

Certification level is a primary workforce quality indicator. Currently, 66 percent of the AT&L civilian workforce is DAWIA certified, and 50 percent meet or exceed the position-level requirement.[35] However, for critical acquisition positions, the certification rate increases to 75 percent, with 65 percent meeting or exceeding the position-level requirement. Certification rates are being reviewed and analyzed under the AT&L Data Green initiative. As better data become available, these certification levels may prove to be higher. Additionally, some functional communities, such as financial management/cost estimating, have gone through workforce draw downs and are experiencing low certification levels.

The USD(AT&L) has directed a dual track initiative to improve certification levels.[36] That initiative included establishing minimum certification rates for all functional communities and milestone dates for validating certification information on individuals assigned to Key Leadership Positions (KLPs) in ACAT I and ACAT II programs. The KLP initiative implementation should be completed in 2007. These initiatives also support the reporting requirements of FY 2007 NDAA, Section 820, "Government Performance of Critical Acquisition Functions."[37] Data quality and analysis have been a driving focus of the AT&L HCSP. Significant progress is being made in this area.

The Systems Planning, Research, Development, and Engineering (SPRDE) career field has had 5, 500 members certified at Level III for more than 10 years. The program management and contracting career fields also have had 1,000 and 1,300 members, respectively, meeting that criterion.[38] Between FY 2002 and the end of FY 2006, more than 7,400 new certifications were awarded at Level III in the SPRDE, program management, and contracting career fields.

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[34] National Center for Higher Education Management Systems: Current trends suggest that since the late 1990s approximately 70 percent of students who enter the ninth grade in 2002 will graduate from high school.

[35] AT&L Workforce Datamart, FY 2006. Statistics include only civilians.

[36] Requirements established in an AT&L Workforce Senior Steering Board Meeting, May 1, 2007.

[37] Section 820 requires that the positions of program manager (PM), deputy PM, chief engineer, systems engineer, and cost estimator in ACAT I and ACAT IAM programs be performed by a "qualified member of the Armed Forces or full-time employee of the DoD." Integrated workforce planning must consider this requirement. The AT&L KLP initiative adds the positions of program contracting officer and PEOs.

[38] AT&L Workforce Datamart, FY 2006.

As the Level II and Level III certified employees depart the workplace, DoD must ensure entry and mid-level workforce members are achieving certifications to fulfill position requirements vacated by the Baby Boomer workforce. Improved demand management will ensure that training resources are optimized to maintain a high-quality workforce. The evolving trend of workforce members working longer; current DoD workforce strength in the 15–25 year groups; current successful hiring; planned improvements to the certification framework; and the ongoing competency initiative and AT&L Core Plus;[39] are positioning DoD to reduce, if not eliminate, the impact of the potential certification shortfall related to the departing "seasoned talent."

In October 2006, USD(AT&L) deployed a joint competency management initiative involving AT&L functional leaders, component acquisition leaders, field subject matter experts, DAU representatives, and competency experts. Updating the models included identifying behaviors and underlying knowledge, skills, and abilities for successful performance. AT&L competency models for all acquisition career fields are scheduled to be completed by September 2008. As the model for a particular career field is completed, a pilot assessment of a sample of the workforce will be completed to validate the competency model and make improvements. Finally, a follow-on workforce assessment will be conducted for each career field. Workforce assessments for all career fields will be completed by December 2008. Future action will include continued competency update, validation, and skill gap assessment efforts in collaboration with AT&L community partners.

Retention and Recruiting—Sustaining Workforce Capability

Preliminary RAND analysis indicates that AT&L civilian workforce members retire at a slower rate than DoD overall. This analysis revealed only 20 percent of the AT&L workforce actually retired within 1 year of becoming eligible.[40] That is, 80 percent did not retire during the first year of eligibility. The analysis further indicated the current annual retirement rate for the AT&L workforce is approximately 3.5 percent, which means that AT&L benefits from "experienced" workforce members staying longer and from "acquisition-experienced" military members retiring and being hired back as civilians.

Recent recruiting and hiring for the AT&L workforce has been successful. As of the end of FY 2006, the SPRDE; program management; and contracting workforce career fields represent 54 percent of the AT&L workforce. Based on the workforce years-of-service information from 2002 to 2006, DoD hired approximately 7,140 SPRDE, 1,338 program management, and 4,045 contracting profes-

[39] AT&L Core Plus is an alternative certification model that will better meet customer learning needs and advance AT&L workforce competency management objectives. It offers a new framework for AT&L workforce certification, which includes (1) broad range of competencies that are common across career and occupational specialized fields, (2) more specialized competencies and elements that relate to an acquisition function or career field, and (3) competencies to perform certain tasks that are specific to individual jobs.

[40] RAND analysis for AT&L, 2007.

sionals, which represents approximately 22 percent, 16 percent, and 17 percent of the total workforce, respectively.[41] However, the competition for talent will increase as Baby Boomers retire, and the national replacement workforce gets smaller.

The AT&L Data Green initiative is expected to provide more advanced capability for the Department to track, understand, and shape workforce strategies to attain the right knowledge, skills, and capabilities. It should improve data-driven recruiting, hiring, and retention decisions fundamental to successful strategic workforce management.

To better compete for and retain talent, the Department must provide "employee value propositions (EVPs)." While compensation and organizational stability attract employees, development opportunities, future career opportunities, manager quality, respect, and collegial work environment, retain employees.[42] A good EVP program provides a clear, concise, and differentiated message as to why high-talented individuals would want to work for that organization.[43]

Section 853 of the FY 2007 NDAA, "Program Manager (PM) Empowerment and Accountability," requires the Department to develop a strategy for enhancing the role of program managers in developing and carrying out defense acquisition programs. This strategy should include opportunities for enhanced training and education, mentoring, improved career paths and career opportunities, incentives for recruitment and retention, and enhanced monetary and non-monetary awards for successful accomplishment of program objectives.[44] Evolving Section 853 initiatives will facilitate EVP deployment.

Human Capital and Workforce Development

DoD must constantly improve ways to help the acquisition workforce learn and be successful on the job. This requires delivering the right knowledge and skills at the employee's learning point of need. The AT&L learning architecture is the Performance Learning Model (PLM). It integrates all learning activities to enhance job performance and workplace capabilities for individuals in entry level through KLPs.[45] The model, which is transparent to the learner, provides convenient and economical access to learning products 24 hours a day, 7 days a week. As a

[41] AT&L Workforce Datamart, FY 2006; statistics for the civilian workforce and the two SPRDE career fields were combined.

[42] Corporate Executive Board, "From Talent Scarcity to Competitive Advantage," January 25, 2007.

[43] Resourcing Strategies, Developing an Employee Value Proposition, http://resourcingstrategies.com/2005/04/developing-an-employee-value-proposition.

[44] Section 820 also requires the Secretary of Defense to revise guidance on PM tenure and accountability.

[45] DoD Directive 5000.52, part 4.2.2.1, January 12, 2005, states that KLPs at a minimum must include the PM, deputy PM, chief engineer, systems engineer, cost estimator, program contracting officer, program executive officer, and others.

net-centric resource, the PLM provides workforce members with seamless access to learning assets. They can engage in the classroom, online, through knowledge sharing communities with the help of experts, and on the job—before, during, and after formal training events. Full deployment of the PLM expands the learning environment for the approximately 128,000 military and civilian members of the AT&L workforce and ensures alignment of DoD learning assets to the strategic goals of senior leadership.

The FY 2006 NDAA Section 801, "Requirements Management Training Certification Program," requires the Department, by September 2008, to train and certify personnel who develop requirements. Requirements and acquisition communities have critical interdependent roles. The Department is developing training for the requirements community, which will enable "Big A" acquisition.[46] Historically, most personnel that developed requirements received limited acquisition training because they were not viewed as part of the acquisition workforce. This new effort will improve the quality of requirements, and subsequently, lead to improved acquisition solutions. However, the expansion of training requirements will drive new demands for increased training funds.

AT&L has expanded training and development for senior civilians by increasing offerings of its 10-week Program Manager's Course (PMT 401) at the Industrial College of the Armed Forces and deploying the Army Senior Service College Fellowship (SSCF). In 2006, partnering with DAU, the Army approved and launched the SSCF program for civilians who would not otherwise have the opportunity to attend senior service school. This program also offers the opportunity to earn advanced degrees and emphasizes critical thinking and ethical decision making. Additionally, the Air Force has successfully deployed internal leadership training and a series of acquisition refresher courses called "back to basics."

WORKFORCE FINDINGS

The review team's workforce findings are summarized below:

1. Maintaining a high performing, agile, and ethical workforce is the USD(AT&L)'s top priority. Through its focus on leadership, the SSB has generated significant momentum supporting strategic human capital planning and initiatives.

2. The Baby Boomer generation comprises 71 percent and 76 percent of the DoD and the AT&L civilian workforce, respectively. DoD faces

[46] "Big A" refers to the entire spectrum of the Defense Acquisition System. "Big A" deals with strategic choice: How the Defense Department determines which assets and investments to acquire to deliver an overall capability. The activities within "Big A" include: workforce, acquisition, requirements, budget, industry, and organizations. See *Defense Acquisition Transformation Report to Congress, John Warner National Defense Authorization Act, Fiscal Year 2007, Section 804,* February 2007, p. 2–4.

challenges related to mitigating the pending departure of highly experienced and seasoned talent.

3. The Army has an acquisition workforce of 45,443, while the Navy has 40,651 and the Air Force has 25,075. Those workforces vary widely in terms of their composition. Most use support contractors to assist in the accomplishment of the acquisition mission.

4. KLPs are being identified throughout the AT&L enterprise and will support FY 2007 NDAA Section 820 implementation.

5. The AT&L workforce is the most experienced in the Department. Fifty percent of the AT&L civilian workforce has more than 20 years of experience compared with approximately 40 percent of the DoD General Schedule workforce.

6. The AT&L workforce is highly educated with 74 percent of civilians having bachelors or advanced degrees, and 23 percent having advanced degrees. Eighty percent of new hires during the past 5 years had bachelors or advanced degrees.

7. Certification level is a workforce quality indicator. Today, 75 percent of the individuals filling critical acquisition positions are certified, while 65 percent meet or exceed position-level requirements. Sixty-six percent of the AT&L workforce are certified, and 50 percent meet or exceed their position-level requirements.

8. Access to current, accurate, and complete workforce data is a critical success factor for improved human capital management. While significant progress is being made under the ongoing AT&L workforce Data Green initiative, continued emphasis and focus is required.

9. Support contractor personnel are an integral part of the DoD Total Force construct. Efforts are currently ongoing to identify, define, and track support contractor personnel.

10. Evolving increased training requirements for the T&E community, contingency contracting, requirements training, and improving certification levels for all acquisition career fields throughout the AT&L enterprise will require increased funding for training. Today, the need to increase funding for acquisition training is viewed as a critical priority.

The workforce, as a whole, is highly experienced and educated, and has received significant training. Maintaining a high performing, agile, and ethical workforce is a top priority for DoD and multiple initiatives are in place to address workforce capabilities and shortfalls. Some areas could be improved, such as ensuring workforce members meet or exceed certification levels required by their assigned position. High-quality workforce information that is current, accurate, and complete is

a critical success factor for improved human capital management. AT&L's Data Green initiative for improving data quality is imperative. KLPs and the requirements for Section 853 and Section 820, FY 2007 NDAA, are being implemented. The workforce is augmented by support contractors, and there are opportunities to improve both identification and management.

RECOMMENDATIONS

Nine overarching actions will enable DoD to meet the challenges of achieving the right organizational construct with the right shaped acquisition workforce.

1. **Develop strategic, data-driven workforce shaping objectives.** Improve strategic total force integration, especially with regard to support contractors filling critical workforce gaps. Track FY 2006 NDAA Section 343 initiatives to better understand utility and application. Develop and use workforce capacity and quality metrics for long-term workforce planning and successful management.

2. **Improve workforce data quality.** Fully capture accurate workforce attributes such as size, certifications, tenure and other data required for effective strategic planning, hiring, development and management of the AT&L workforce. Continue the Data Green initiative to standardize data inputs to Defense Manpower Data Center (DMDC), Defense Civilian Personnel Data System (DCPDS) and AT&L Workforce Datamart to achieve comprehensive data-driven workforce analysis, and workforce decision-making capabilities.

3. **Revalidate and improve current training, certification, education, and qualification standards.** Focus on critical skill set gaps, both current and future, in important acquisition mission areas. Use standard competency models and competency assessments to improve workforce career development, training, and management of capability. Currently such competency models have been completed for program management, life-cycle logistics, and contracting. They should be completed for all functional areas.

4. **Fully develop and deploy strategy to implement an Employee Value Proposition initiative**. Employee Value Propositions represent a holistic combination of all things valued by employees, including leadership, experiences, training, and compensation; it also forms the foundation of future recruiting campaigns and employee development and retention activities.

5. **Establish student or intern programs.** Develop proposals and strategies to help mitigate the impending departure of seasoned talent in the Baby Boomer generation from the AT&L workforce.

6. **Work with the DoD Comptroller to establish standard and consistent training and certification standards for individuals outside the acquisition organizations who perform acquisition-related budget functions.** This training and standards would enable those individuals to receive requisite acquisition training to enhance their job performance.

7. **Charter future Joint Program Executive Offices.** Use the Joint Tactical Radio Systems management structure as a preferred model. This model includes clearly stated directive authority for management, funding, and staffing, along with personnel performance ratings and technical decisions. These offices would enable mitigation of many problems identified by this review and prior studies.

8. **Mitigate the impact of departing seasoned talent, especially engineering, scientific, and technical expertise from the AT&L workforce.** Analyze and develop retention and recruiting options by developing strategic workforce insights as more standardized data and career field information is available. Acquisition organizations must understand their current demographic situation and develop workforce life-cycle planning profiles.

9. **Increase funding levels for acquisition training.** This funding should cover expanded capacity to address growing training needs for requirements, financial/cost, contingency contracting, contract management and Test and Evaluation communities, and improving certification levels for all acquisition career fields throughout the AT&L workforce.

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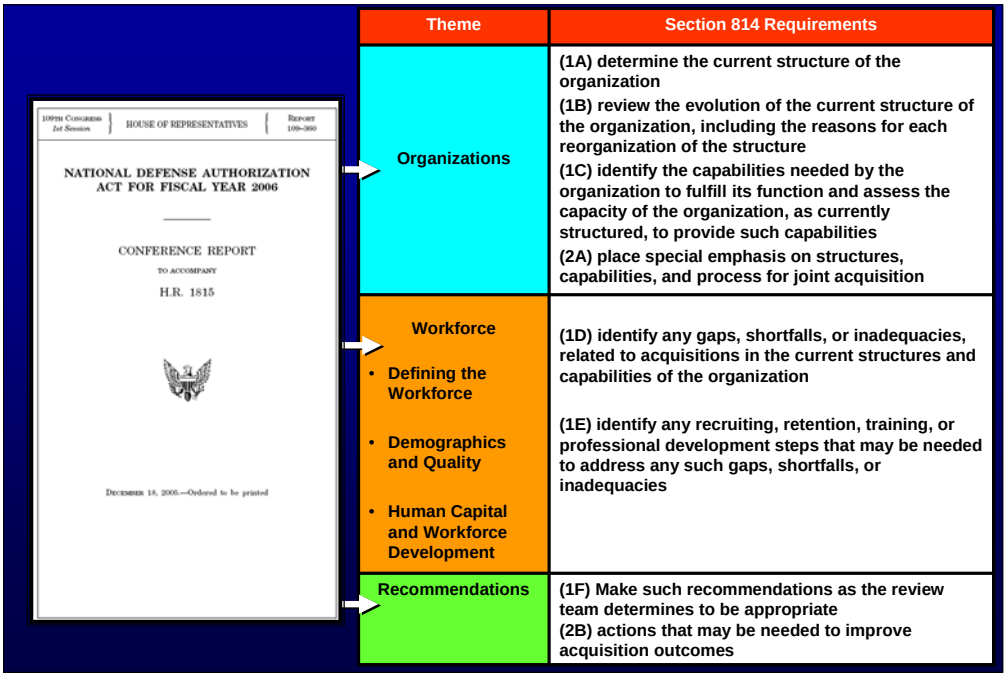
Chapter 1
Introduction

LEGISLATION

Section 814 of the National Defense Authorization Act (NDAA) for Fiscal Year (FY) 2006 directed the Defense Acquisition University (DAU), under authority of the Under Secretary of Defense for Acquisition, Technology and Logistics, USD(AT&L), to review acquisition structures and capabilities of the Department of Defense (DoD). This review included the military departments, defense agencies, and other DoD organizations with significant acquisition functions. In light of recently completed reports[1] that addressed broader acquisition issues, this review focused on organizational structures and workforce.

This report covers three major areas: organizations, workforce, and recommendations, as shown in Figure 1-1.

Figure 1-1. NDAA, Section 814 Requirements



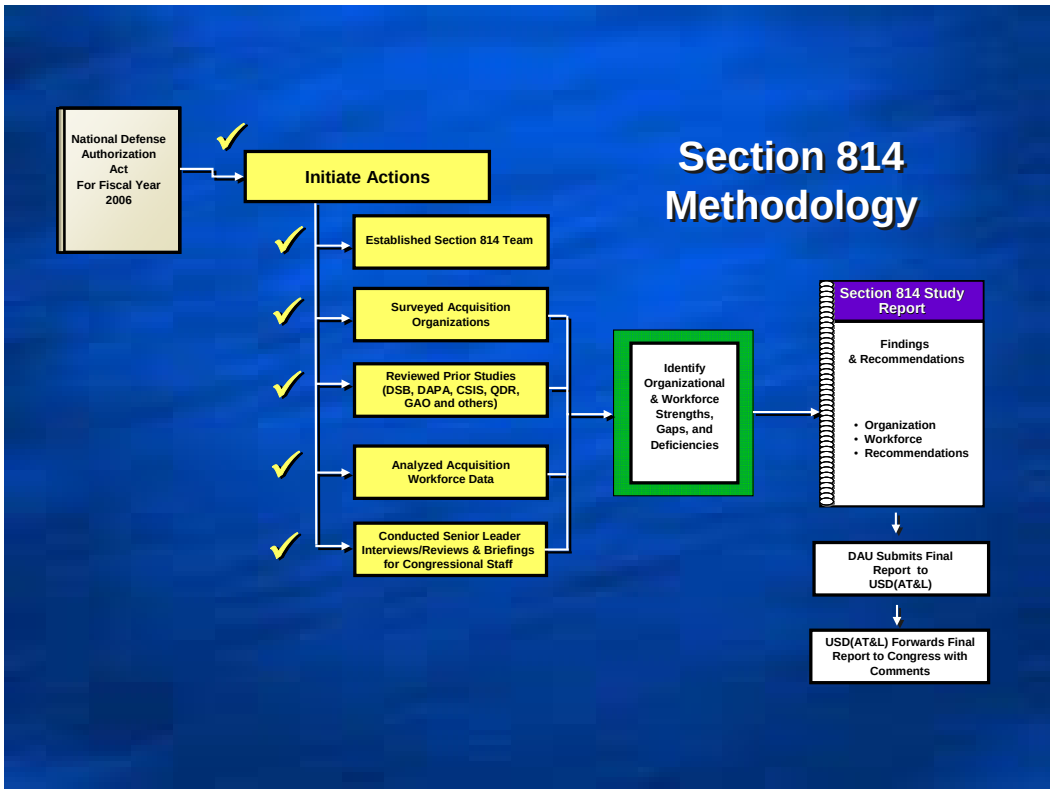
[1] *A Report by the Assessment Panel of the Defense Acquisition Performance Assessment Project for the Deputy Secretary of Defense, Defense Acquisition Performance Assessment Report, January 2006, Beyond Goldwater-Nichols: U.S. Government and Defense Reform for a New Strategic Era Phase 2 Report.* Center for Strategic and International Studies (CSIS), July 2005. *Defense Science Board Summer Study on Transformation: A Progress Assessment Volume I and II, February 2006,* and 2006 Quadrennial Defense Review (QDR) Report.

METHODOLOGY

The scope included surveying 63 organizations in the three military departments, 17 defense agencies and field activities, 2 combatant commands (COCOMs), and interviewing 46 executives and thought leaders in relevant fields. Also, over 150 reports, books, and documents were reviewed along with DoD acquisition program outcomes over the past 25 years.

Figure 1-2 illustrates the review methodology.

Figure 1-2. Section 814 Review Methodology



The following are representative of the more significant documents the team considered during the review:

- Defense Acquisition Performance Assessment Panel, *A Report by the Assessment Panel of the Defense Acquisition Performance Assessment Project for the Secretary of Defense*, January 2006.
- Center for Strategic and International Studies, *Beyond Goldwater-Nichols, Phase II Report: U.S. Government and Defense Reform for a New Strategic Era*, July 2005.
- Office of the USD(AT&L), *Defense Science Board Summer Study on Transformation: A Progress Assessment Volume I*, February 2006.

- *Joint Defense Capabilities Study: Improving DoD Strategic Planning, Resourcing and Execution to Satisfy Joint Capabilities*, Final Report, January 2004 ("the Aldridge Report").
- DoD Office of the Inspector General Audit Report, *DoD Acquisition Workforce Reduction Trends and Impacts*, Report D-2000-088, February 29, 2000.
- Office of the USD(AT&L), *Acquisition Workforce 2005, Taskforce Final Report*, October 2000.
- Office of the USD(AT&L*), AT&L Human Capital Strategic Plan (HCSP) Version 1.0.*
- Office of the USD(AT&L*), Strategic Goals Implementation Plan*, 2007.
- DoD, *Quadrennial Defense Review Report*, February 6, 2006.
- Dychwald, Ken; Erickson, Tamara J.; and Morrison, Robert; *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent*, Harvard Business School Press, April 2006.[2]

In addition, the Department's *Defense Acquisition Transformation Report* noted that "There are numerous similarities among the reports, making a strong case to pursue recurring recommendations."[3] The initiatives that are currently being pursued by the Department have the potential to significantly improve acquisition outcomes. These initiatives, if successfully implemented, should allow the Department to successfully improve the predictability of acquisition outcomes for major defense acquisition programs. Some of these initiatives are Capability Portfolio Management, Senior-Level Tri-Chaired Concept Decision, Capital Accounts for Major Defense Acquisition Programs, and restructured/streamlined Defense Acquisition Executive Summary (DAES) Process.

Surveyed Acquisition Organizations

The review team identified 33 potential participating organizations. It then developed an extensive survey and distributed it to those organizations. Twenty-three organizations completed the survey and their responses were instrumental in the conduct of this review and preparation of this report. Overall, the team received input from 63 subordinate organizations within the military departments, 17 defense agencies and field activities, and 2 COCOMs—Special Operations Command (SOCOM) and Transportation Command (TRANSCOM).

[2] This book and the associated interview validated the team's workforce lifecycle model (WLM) analytic approach. Frank J. Anderson interviewed co-author Robert Morison of *Workforce Crisis: How to Beat the Coming Shortage of Skills and Talent.*

[3] *Defense Acquisition Transformation Report to Congress, John Warner National Defense Authorization Act, Fiscal Year 2007, Section 804*, February 2007.

The survey response data were used to prepare separate annexes for the military departments, agencies, and COCOMs. Following the survey, the review team hosted a workshop with Service, Agency, and COCOM representatives to further develop and refine the annexes. The response data were analyzed to develop common themes and trends, which were then briefed to the President of the DAU and to the DUSD(A&T) and USD(AT&L), who provided additional direction and guidance. Draft annexes were once again reviewed and final Service, Agency, and COCOM positions developed. The survey data were supplemented with the results of an independent historical analysis of current and previous AT&L organizations and structures from 1987 to present.

Analyzed Acquisition Workforce Data

A wealth of acquisition workforce data is resident at DAU. These data contain both typical demographic information, such as age and years of service, and acquisition-specific information, such as career field and certification level achieved. Both historical and recent years are maintained within this database. These data provided the major source for the review team's workforce analyses.

To gain insight into trends, the review team compiled and analyzed statistics over varying periods. Analyses were performed at the aggregated total workforce level and explorations made into various subsets, such as Component or career field.

Conducted Senior Leader Interviews and Reviews and Briefings for Congressional Staff

The senior review team members also conducted one-on-one interviews and discussions with 46 executives, acquisition leaders, and thought leaders in related fields. Information from these interviews and discussions were incorporated into the report as substantiation, as appropriate, and considered while developing findings and recommendations. Senior team members also met periodically with Congressional staff members. These meetings served dual purposes: they provided confirmation that the study team understood the purpose behind the legislation calling for this study, and they allowed for an interchange on ideas from the study research.

Identified Organizational and Workforce Strengths, Gaps, and Deficiencies

The combined information gathered from prior studies, surveys, interviews, and data analyses formed the foundation of the study. This foundation enabled the review team to identify organizational and workforce strengths, gaps, and deficiencies and then to derive findings and develop recommendations.

REPORT ORGANIZATION

The results of the review are contained in two documents. This is the first document and is referred to as the Report. It is organized as follows:

- Chapter 2 addresses the current structure of DoD acquisition organizations, the evolution of these structures, and the major organizational changes that they have undergone. It also reports on the team's major organizational findings for single service and joint acquisition organizations.
- Chapter 3 reports on the insight gained from extensive analysis of the DoD acquisition workforce. It addresses such topics as major workforce trends, workforce demographics, workforce education and experience, and workforce databases. This chapter also addresses linkage to the AT&L HCSP and the review's major workforce findings.
- Chapter 4 provides the team's major recommendations in the context of ongoing initiatives and proposed new initiatives.
- Appendix A provides a bibliography of sources.
- Appendix B shows the legislation requiring this study.
- Appendix C identifies members of the review team and Component representative.
- Appendix D lists the organizations that participated in the review's survey.
- Appendix E lists the individuals the review team wishes to acknowledge.

The second document—the Addendum—contains additional appendixes and the Section 814 required Component annexes.

Chapter 2
Organizations

This chapter has two major segments. The first describes the current organizational structures of OUSD(AT&L), Services, Agencies, and COCOMs. It also addresses how these organizations evolved to their present state. Joint acquisition organizations are also addressed in this first section. The second section presents the major organizational findings.

SECTION 814 REQUIREMENTS

(1A) Determine the current structure of the organization
(1B) Review the evolution of the current structure of the organization, including the reasons for each reorganization of the structure
(1C) Identify the capabilities needed by the organization to fulfill its function and assess the capacity of the organization, as currently structured, to provide such capabilities
(2A) Place special emphasis on structures, capabilities, and process for joint acquisition

OVERVIEW

A review of defense acquisition structures and capabilities from 1985 to 2006 revealed that DoD leaders have used organizational changes as a management tool to achieve various objectives. While acquisition missions are fundamentally the same within the organizations, the structures of those organizations are significantly different. Each organization has a different workforce capability construct relative to career field mix, workforce size, and military composition. These differences, primarily due to cultural and leadership style, have neither positive nor negative implications. Most use support contractors to assist in the accomplishment of the acquisition mission. The review found DoD acquisition organizations are continuously evolving to create better management structures. However, structural changes alone do not appear to influence acquisition outcomes, favorably or unfavorably.[1] Also, metrics are seldom used to measure and track expected benefits or results when making organizational changes.

[1] The team defined acquisition program outcomes as cost, schedule, and performance. The challenge is to establish a program that will meet the warfighter's requirements and successfully predict outcomes at program initiation that will deliver within agreed cost, schedule, and performance constraints.

Key Organizational Changes

The most significant organizational changes over the last 25 years included creating the Under Secretary of Defense for Acquisition, USD(A), now USD(AT&L);[2] reducing the number of four-star acquisition commands; dual-hatting the Under Secretary of the Air Force (USecAF) as the DoD Executive Agent (EA) for Space acquisition; and establishing the program executive office (PEO) structure. The following paragraphs summarize these changes:

- **Formation of USD(A)**: In 1986, the Packard Commission recommended establishment of an under secretary for acquisition as the senior official to provide overall supervision of the Defense acquisition system. Congress implemented this recommendation by creating the Under Secretary of Defense for Acquisition. The USD(A) office, which was created by merging several existing offices, has changed over the years to reflect the maturing complexities and scope of Defense acquisition.

- **Reduction of four-star acquisition commands**:

  - The Navy eliminated its four-star Navy Materiel Command in 1985 and aligned its system commands (SYSCOMs) with Headquarters, Department of the Navy.

  - The Air Force merged two four-star commands—Air Force System Command (AFSC) and Air Force Logistics Command (AFLC)—to create the Air Force Materiel Command (AFMC) in 1992, eliminating one four-star billet from acquisition organizations.

  - Although it did not eliminate a four-star billet from 2000 to 2006, the Army reorganized its acquisition structure, moving all acquisition programs under the PEO structure, standing up three life-cycle management commands (LCMCs), and activating the Army Contracting Agency (ACA).

- **Creation of DoD EA for Space**: The 2001 Space Commission[3] significantly influenced the organization and management of DoD space system acquisition. The Secretary of the Air Force was designated the EA for Space, an authority subsequently delegated to the Under Secretary of the Air Force. The EA for Space was given broad authorities and responsibilities over the national security space enterprise, to include designation as the Air Force Acquisition Executive for space-related acquisitions. Additionally, the Air Force Space and Missile Systems Center (SMC) transferred from AFMC to the Air Force Space Command (AFSPC) in

[2] Public Law 99-348, *Military Retirement Reform Act of 1986*, July 1, 1986.

[3] FY 2000 NDAA Section 1623, "Commission to Assess United States National Security Space Management."

order to enhance communication and coordination between space systems operators and the space acquisition community.

- **PEO structure**: The PEO structure, which was initiated in 1987 to comply with recommendations of the President's Blue Ribbon Commission on Defense Management (the Packard Commission) of 1986,[4] established a direct link from the program manager (PM) through the PEO to the Service Acquisition Executive (SAE). The PEO structure is now accepted practice throughout DoD. Most defense agencies, such as the Defense Information Systems Agency (DISA), National Security Agency (NSA), and National Geospatial-Intelligence Agency (NGA), have established acquisition executives and PEO organizations. While the Service chiefs are normally removed from direct program reporting chains under the PEO structure, they continue to approve and prioritize requirements, build program objective memorandums (POMs), and staff the project offices. In all Services, the PEO reports directly to the SAE. Although DoD Instruction 5000.2 requires PEOs to have no other command responsibilities,[5] the Army and Air Force are currently excepted. While more detail on the PEO structures appears on subsequent pages and in the Addendum, the history and current state of their implementation can be summarized as follows:

  - During the years following 1987, the Army consolidated the number of major subordinate commands under Army Materiel Command (AMC). The number of Army PEOs decreased from 22 in 1987 to 10 in 1991. Between 2004 and 2006, most of the Army's PEOs were aligned under a LCMC structure with some dual-hatted as commanders or deputy commanders.

  - In 1987, the Navy dual-hatted its SYSCOM commanders as PEOs. Between 1990 and 1991, it reestablished the PEO structure independent from, but affiliated with, the SYSCOMs. The Navy has separate PEO and system command functions for development and sustainment. Notwithstanding some changes as programs mature and other programs come online, the Navy's PEO structure has remained essentially the same.

  - The Air Force also dual-hatted the AFSC product division commanders as PEOs in 1987. In 1991, the Air Force created PEOs independent from the product divisions and stationed them at the Pentagon with the Assistant Secretary of the Air Force for Acquisition (SAF/AQ). In 2003, the Air Force realigned its PEO structure, consolidating most PEO responsibilities under its product center commanders (dual-hatting them). Three other Air Force PEOs—the F/A-22 Raptor, Joint

[4] *A Quest for Excellence: Final Report to the President by the President's Blue Ribbon Commission on Defense Management*, June 1986.

[5] DoD Instruction 5000.2, *Operation of the Defense Acquisition System*, May 12, 2003.

Strike Fighter (JSF),[6] and Combat and Mission Support—remained outside the product center commands. Additionally, PEO Space Radar and PEO Environmental Systems report directly to the USecAF.

Other Major Organizational Changes

The transfer of the contract administration function from the military services and defense agencies to the Defense Contract Administration Command (and eventually the Defense Contract Management Agency, DCMA) represented a significant change. DCMA is now responsible, with a few exceptions, for all contract administration functions throughout DoD. It supports the PEO structure by aligning resources with PEO portfolio requirements. Another impact on acquisition was the workforce reduction and closing of field offices by the Defense Contract Audit Agency (DCAA). The reductions in DCMA and DCAA workforces were based on the presumption that acquisition initiatives, such as the use of commercial practices, single process initiative (SPI),[7] and COTS[8] products, would reduce the need for government oversight of contractor performance and the need for detailed cost and pricing analysis and supporting audits.

Another major change was the activation of ACA in 2002. ACA, a field operating agency reporting to the Assistant Secretary of the Army for Acquisition, Logistics and Technology, or ASA(ALT), was formed by consolidating similar and common-use contracts to reduce redundancy and leverage economies of scale. ACA's major customers are the Installation Management Agency (IMA) and the Network Enterprise Technology Command (NETCOM). Providing contracting support to Army installations, information technology users, and the deployed warfighters are the prime focus of ACA's mission.[9] The Army is the only Service with a separate contracting agency.

Organizational Changes Due to External Forces

Two external forces have also resulted in significant organizational changes in the DoD acquisition structure:

1. **Global War on Terrorism**. The Global War on Terrorism (GWOT) and the increase in funding that is being allocated to this effort has had an

[6] Joint Strike Fighter rotates between Navy and Air Force SAEs: when the PEO is Navy, JSF reports to the Air Force SAE; when the PEO is Air Force, JSF reports to the Navy SAE.

[7] Defense Federal Acquisition Regulation Supplement 211.273-2, Under the Single Process Initiative (SPI), DoD accepts SPI processes in lieu of specific military or federal specifications or standards that specify a management or manufacturing process.

[8] Commercial off-the-shelf (COTS) is a term for software or hardware products that are available for sale, lease, or license to the general public. Those products are often used as alternatives to in-house developed or designed products. The use of COTS is being mandated across many government and business programs because they may offer significant savings in procurement and maintenance.

[9] See http://www.aca.army.mil/Overview/index.htm.

affect on acquisition programs. This is reflected in increased emphasis on intelligence systems, unmanned aerial vehicles, increased armor protection for soldiers and light combat vehicles, and the restructing of Army into a lighter more rapidly deployable force. The GWOT has also increased emphasis on responsive acquisition such as the Joint Rapid Acquisition Cell.

2. **Base Closure and Realignment Commission**. The effects of the Base Closure and Realignment Commission (BRAC) have been experienced by all Services. The following are examples of the impact of the 1995 BRAC decisions:

   a. A major impact occurred in Navy's Space and Naval Warfare Systems Command (SPAWAR), which experienced extensive relocations of its acquisition organizations on both the East and West Coasts.

   b. In the Air Force, both the Sacramento, California, and San Antonio, Texas, Air Logistics Centers were closed.

   c. The Army closed most of the Sierra Army Depot in California as a result of the 1995 BRAC; while the Surface Deployment and Distribution Command is currently in the process of moving to Scott Air Force Base, Illinois.

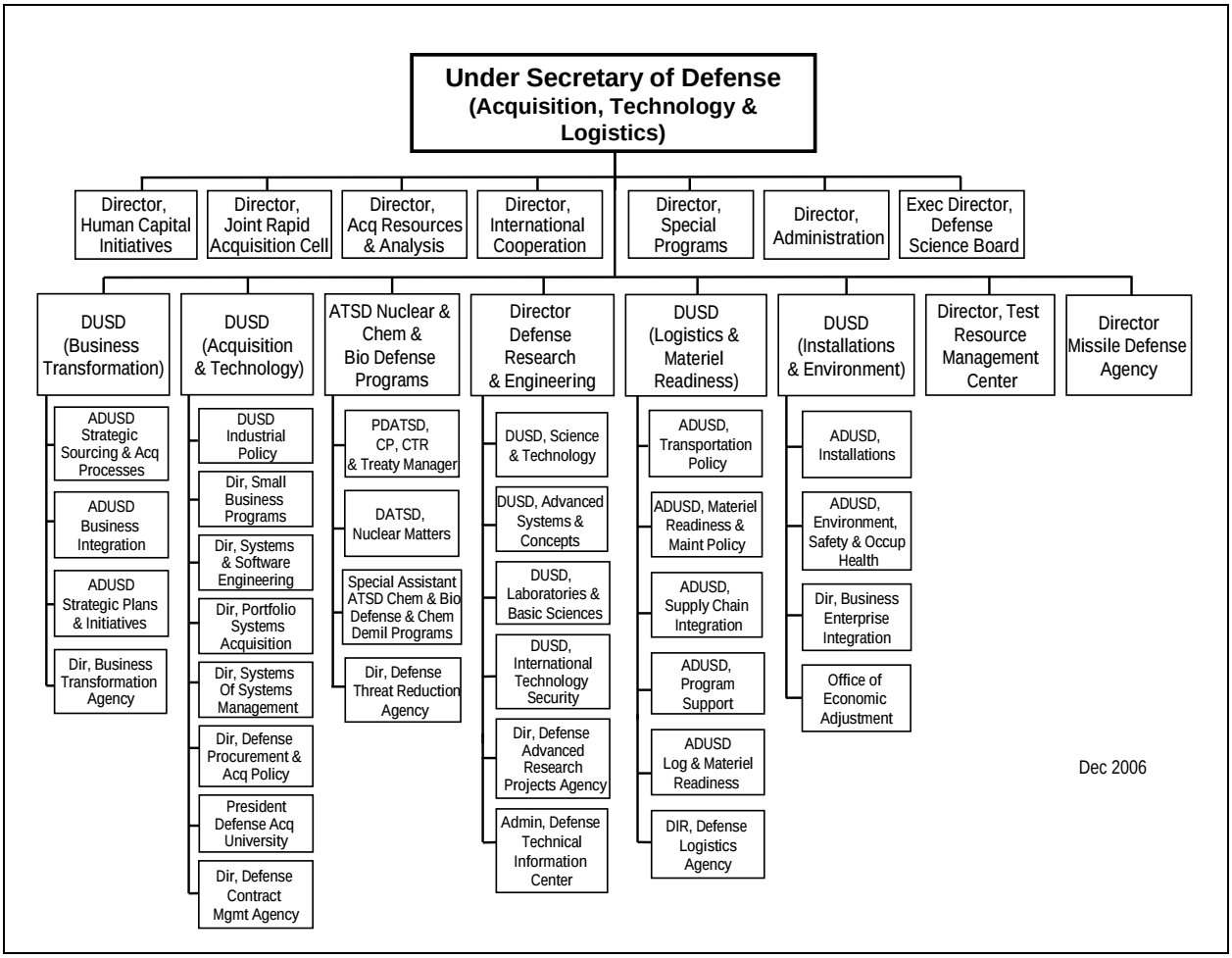
STRUCTURE AND EVOLUTION OF DEPARTMENT OF DEFENSE ACQUISITION ORGANIZATIONS

The remainder of this chapter describes in substantial detail the current structure of DoD's acquisition organizations at the USD(AT&L), Service, Agency, defense field activity, and COCOM levels. It also addresses the evolution from prior organizational structures to today's structures. (The annexes in the Addendum provide additional discussions of changes for these organizations.)

Under Secretary of Defense for Acquisition, Technology and Logistics

Under the authority, direction, and control of the Secretary of Defense, the USD(AT&L) is the principal staff assistant and advisor to the Secretary and Deputy Secretary of Defense for all matters relating to the DoD acquisition system; research and development; advanced technology; developmental test and evaluation; production; logistics; installation management; military construction; procurement; environment security; and nuclear, chemical, and biological matters. As Figure 2-1 shows, the USD(AT&L) has deputies and directors to assist in carrying out the assigned acquisition responsibilities.

Figure 2-1. Office of USD(AT&L)



The OUSD(AT&L) interacts with the Assistant Secretary of Defense for Networks and Information Integration, or ASD(NII), on information technology acquisition projects and the Under Secretary of the Air Force on space systems acquisitions. The ASD(NII), formerly the ASD for Command, Control, Communications and Intelligence ASD(C3I), is the DoD Chief Information Officer responsible for designing and implementing a process for maximizing the value and assessing and managing the risks of DoD IT acquisitions, to include National Security Systems (NSS) acquisitions. The ASD(NII) is also the milestone decision authority for Major Automated Information Systems. The Under Secretary of the Air Force, as the DoD EA for Space, develops, coordinates, and integrates plans and programs for space systems and the acquisition of all DoD space major defense acquisition programs.

Evolution of the USD(AT&L)

The Office of the USD(A) was created in September 1986. This organization was formed by merging several existing offices and agencies. The USD(A) exercised "direction, authority and control" over three assistant secretaries of defense, the Director of Defense Research and Engineering (DDR&E),[10] five defense agencies,[11] and the Defense Systems Management College (DSMC). One new office was created in 1987: Program Operations (later renamed Program Integration).

In May, 1993 the USD(A) established the Deputy Under Secretary of Defense (Acquisition Reform), DUSD(AR), as a direct report, responsible for re-engineering the acquisition (including procurement) processes to effect substantial improvement of the DoD acquisition system.[12] Major duties included examining the acquisition system seeking models of excellence and best practices to promote significant and continuous improvement in defense acquisition programs. This also included management and direction over the Acquisition Education Training and Career Development Directorate, the Defense Acquisition University, and the Defense Systems Management College with responsibility for policy, direction and evaluation of the overall defense acquisition education, training and career development programs for military and civilian acquisition personnel.

During the Acquisition Reform years, the pendulum swung from rigid government control toward adoption of best commercial practices through organizational constructs brought about by process acquisition teams (PATs) reporting to the DoD Acquisition Reform Senior Steering Group, chaired by the DUSD(AR) and comprised of the Vice Chairman of the Joint Chiefs of Staff; the DoD General Counsel; the DoD Comptroller, the Director, Defense Research and Engineering; the Director, Program Analysis and Evaluation; the Assistant Secretary for Command, Control, Communications and Intelligence; Director of the Defense Contract Audit Agency; the DoD Inspector General; the Directors of Defense Procurement and Acquisition Program Integration; the Service Acquisition Executives; and the Director, Defense logistics Agency.[13] One significant change in organization structure was the reforming of the committee structure to the Overarching Integrated Product Teams (OIPTs) for management and oversight of major defense acquisition programs.

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[10] When Congress created the USD(A) in the Military Retirement Reform Act of 1986, the position of USD(Research & Engineering) was redesignated Director of Defense Research and Engineering—returning to the title the position had prior to 1958.

[11] These agencies were Defense Logistics Agency (DLA), Defense Mapping Agency (DMA), Defense Communications Agency (DCA), Defense Advanced Research Project Agency (DARPA), and Defense Nuclear Agency.

[12] DoD Memorandum, "Establish Deputy Under Secretary of Defense of Acquisition Reform," Under Secretary of Defense (Acquisition), May 14, 1993.

[13] Secretary of Defense, *Acquisition Reform, A Mandate for Change*, February 9, 1994, p. 14.

USD(A)'s title was changed to USD (Acquisition & Technology) in 1995 reflecting increasing emphasis on science and technology efforts,[14] and changed again in 2000 to include logistics: USD(AT&L). 2001 marked the end of "Acquisition Reform" as the DUSD(AR) was removed with creation of a Director, Acquisition Initiatives (AI) having similar responsibilities but shifting emphasis upon acquisition excellence.

In 2002, the offices of Director, Acquisition Initiatives and Director, Defense Procurement were merged into a new office, Director of Procurement and Acquisition Policy (DPAP). In 2003 the Director, Test Resource Management Center (TRMC), was established to focus on test infrastructure and resources. Director, Joint Rapid Acquisition Cell (JRAC) was established in September 2004 to "facilitate meeting the urgent material and logistics requirements which the Combatant Commanders (CoComs) certify as operationally critical."[15]

During the period 2001 to 2003, the DAU consortium of schools transitioned to a consolidated university structure, with five full-service campuses aligned with major AT&L workforce locations. Curriculum development was centralized at Fort Belvoir, Virginia. DAU dedicated additional resources to expand training and knowledge management assets to reach a larger percentage of the acquisition workforce on a 24-hour basis. Combined with large-scale reengineering of career field training, starting with the program management career field, this was the most comprehensive re-engineering of acquisition training since DSMC was established in 1971.[16]

Figure 2-2 illustrates changes from 1987 to 2006. In this figure, and in all subsequent organizational figures in this chapter, the blue background highlights the organizational changes.

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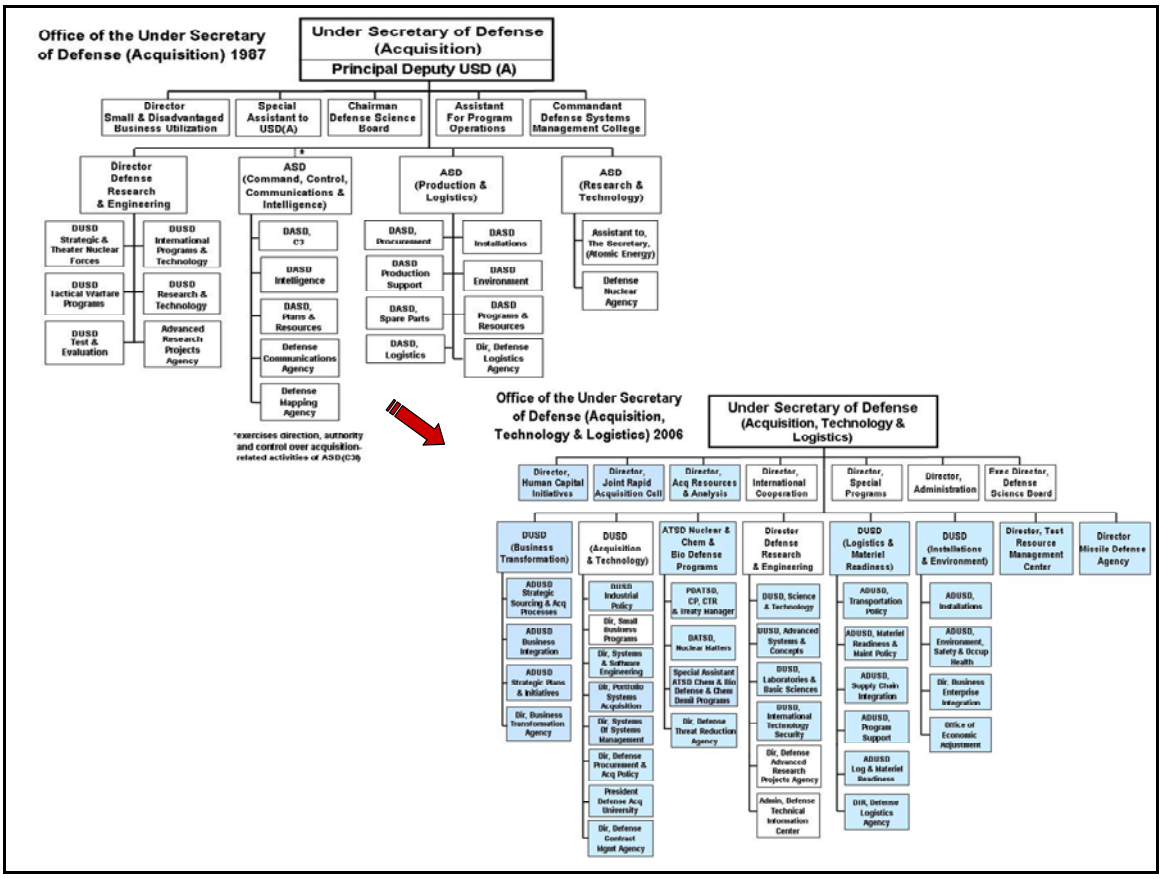
[14] Public Law 103-160, *National Defense Authorization Act for FY 1994*.

[15] *National Defense Authorization Act for FY 2003*, Section 806, required the Secretary of Defense to prescribe procedures for the rapid acquisition and deployment of items "currently under development by the Department of Defense or available from the commercial sector; and urgently needed to react to an enemy threat or to respond to significant and urgent safety situations." *National Defense Authorization Act for FY 2005*, Section 811, provided additional authority for the acquisition of equipment to respond to combat emergencies, and authorized waivers for many of the requirements that apply to traditional acquisition programs.

[16] DAU consolidation was first directed by USD(A&T) Memorandum, December 23, 1997, *"Decisions Regarding the Report of the Acquisition, Education and Training Process Action Team*; it was subsequently approved by DoD Reform Initiative Directive No. 52, *Defense Acquisition University Consolidation*, October 21, 1999. For additional information on the transformation of DAU from a consortium to a unified university structure, see *The Defense Acquisition University Annual Report, 2001*, available from the Acker Library, http://www.dau.mil/library.

Figure 2-2. USD(AT&L) from 1987 to 2006



The USD(AT&L), the Honorable Kenneth J. Krieg, appointed in 2005, has made substantial organizational changes to improve defense acquisition processes and program outcomes. These changes have been in accordance with the 2006 Quadrennial Defense Review (QDR) and other initiatives driven by the urgencies of GWOT. These changes include the following:[17]

- Shift in emphasis from single service acquisition systems to joint portfolio management
- Refinement of a human capital strategy
- Improvement of governance of the business transformation effort
- Increased enterprise data transparency
- Implementation of capital acquisition and macro resource control.

[17] Secretary of Defense, *The Report of the Quadrennial Defense Review*, February 6, 2006, pp. vii, 66, 67, 69, and 80.

Specific organizational changes include the following:

- Director, Human Capital Initiatives. This office was created as a result of congressional interest in human capital planning and the QDR emphasis on human capital. The President, DAU, is dual-hatted as the Director, Human Capital Initiatives, for the acquisition workforce.

- The Deputy Under Secretary of Defense for Business Transformation. This position was created in early 2006 to lead business modernization across the military services and defense agencies to provide for rapid transformation of business processes and systems to ensure support to the warfighter and improved financial accountability.

- Director, Defense Systems. This office was disestablished and the following organizational changes were made to reflect strategic direction in support of the 2006 QDR, emphasize core competencies, and improve communication, teamwork, and integration within the office of the DUSD(A&T):[18]

  - Director, Systems Acquisition was renamed as the Director, Portfolio Systems Acquisition to reflect the QDR emphasis on managing portfolios of systems instead of individual weapons systems. This official reports directly to the DUSD for Acquisition and Technology, DUSD(A&T).

  - Director, Joint Advanced Concepts was created to provide an Acquisition and Technology focal point for Joint Capabilities Integration and Development System (JCIDS), and bridges from Acquisition and Technology to other organizations both within and outside of OUSD(AT&L) responsible for related areas, such as NII, DDR&E, Missile Defense Agency (MDA), and others.

  - Director, Systems Engineering was renamed the Director, Systems Engineering and Software Management, reporting to the DUSD(A&T), to reflect the unique oversight and review requirements for the development of software intensive weapons systems.

  - DUSD (International Technology Security) was moved to the DDR&E.

See the Addendum for more information about the OUSD(AT&L) organization.

[18] DoD Memorandum, "Organizational Restructuring in the Office of the Deputy Under Secretary of Defense (Acquisition and Technology)," May 18, 2006.

SERVICE, DEFENSE AGENCY, DEFENSE FIELD ACTIVITY, AND COMBATANT COMMANDS

This section provides overviews of the acquisition organization structures for the military services, defense agencies, and selected COCOMs. More detailed information is available in the Addendum to this report.

Military Services Overview

All of the military services have similar organizational structures at the SAE level in that each has an assistant secretary responsible for acquisition who reports directly to the Service Secretary:

- Assistant Secretary of the Army for Acquisition, Logistics and Technology, or ASA(ALT)
- Assistant Secretary of the Navy for Research, Development and Acquisition, or ASN(RDA)
- Assistant Secretary of the Air Force for Acquisition, or SAF/AQ.

Each SAE has several deputies and directors responsible for major warfighting platforms, for warfare types, or for major acquisition focus areas. Below the SAEs, the Service acquisition organizations have distinctly different structures. One of the more obvious differences is that the Army AMC and Air Force AFMC have four-star acquisition commands, the Navy does not.

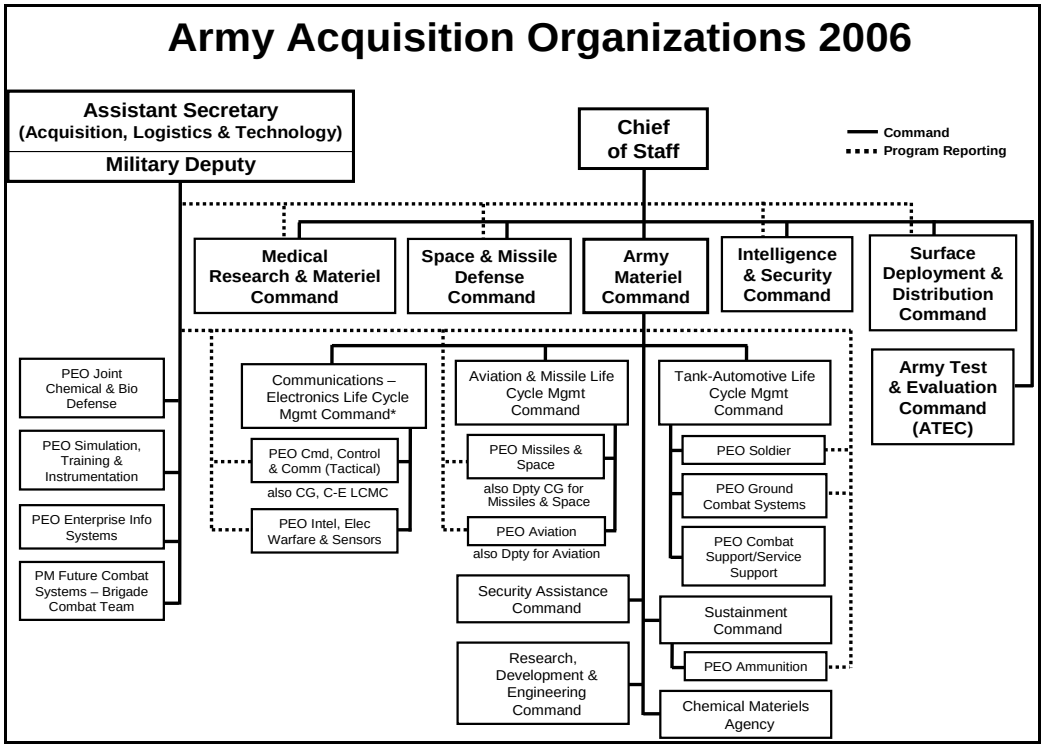
The following subsections provide an overview of each of the Services acquisition structures.

Army

The ASA(ALT) is responsible for the development and acquisition of Army platforms and weapon systems. The Office of the ASA(ALT) consists of the Assistant Secretary's immediate staff, three PEOs, a Direct Reporting Program Manager (DRPM), and ACA. The PEOs are responsible for the development and acquisition of specific classes of Army systems. AMC and its major commands are also responsible for systems acquisition and supporting those systems after fielding. The Commander, AMC, reports to Headquarters, U.S. Army.

Figure 2-3 shows the Army acquisition structure in 2006.

Figure 2-3. Department of Army's Current Organizational Structure for Acquisition



EVOLUTION OF ARMY ACQUISITION ORGANIZATIONAL STRUCTURE

The review team used 1987 as a baseline for the Army's acquisition organization. That organizational structure is described below:

- It had six materiel developing commands. Five of these reported to the Under Secretary for acquisition matters; all to Chief of Staff for operational matters.
- Twenty-two PEOs and one PM reported directly to Under Secretary of the Army (the Army's SAE).
- AMC was the major materiel developer with 10 major subordinate commands:
  - Missile Command
  - Tank-Automotive Command
  - Aviation Support Command
  - Laboratory Command
  - Test and Evaluation Command

- Armament, Munitions and Chemical Command
- Communications-Electronics Command
- Troop Support Command
- Depot Systems Command
- Security Assistance Center.

- AMC provided matrix support to PEOs, and managed non-PEO programs.
- Operational Test and Evaluation Agency (OTEA) was the independent operational tester (OT).
- AMC's Test and Evaluation Command (TECOM) was the Army's development tester (DT), except for materiel systems developed by Information Systems Command (ISC) and Medical Research and Development (R&D) Command.
- Intelligence and Security Command (INSCOM) was both a combat (user) and materiel developer, and conducted Developmental Testing and Evaluation (DT&E) and Operational Testing and Evaluation (OT&E) of assigned classified systems.
- Medical R&D Command's Medical Materiel Development Activity was the single advanced development medical RDA activity within DoD.

Since 1987, the Army has restructured the major subordinate commands under AMC, largely through consolidations (for example, the Troop Support Command, Aviation Support Command, and Missile Command were combined to form the Aviation and Missile Command). The following are highlights of the major changes from 1998 to 1999:

1988. Acquisition Executive role was delegated to the Assistant Secretary (RDA).

1989–1991. The PEO structure was streamlined from 22 PEOs to 10.

1992. Army Research Lab (ARL) was activated, joining Army Laboratory Command with other research elements. Aviation and Troop Command (ATCOM) was created, combining Aviation Support Command and Troop Support Command. Simulation, Training and Instrumentation Command was created, combining PM Training Aides and Devices and PM Instrumentation, Threats and Target Simulators. Army Supply depots were transferred to Defense Logistics Agency (DLA). The Strategic Defense Command becomes Space and Strategic Defense Command (SSDC).

1995. Tank-Automotive Command was redesignated the Tank-Automotive and Armaments Command and assumed operational control of Armament and Chemical Acquisition and Logistics Activity and Armament RD&E Center. The Industrial Operations Command (IOC) was activated merging Depot Support Command and Armament, Munitions and Chemical Command. Maintenance depots were transferred to AMC's major subordinate commands. IOC became the manager for ammunition depots and arsenals.

1996. Information Systems Command moved under Communications-Electronics Command. Two direct-reporting PMs were established; Biological Defense and Chemical Demilitarization.

1997. Aviation and Missile Command was activated. It was formed from Aviation and Troop Command and Missile Command. Space and Strategic Defense Command became Space and Missile Defense Command.

1998. The Soldier and Biological Chemical Command was created, evolving from Armament, Munitions and Chemical Command's Chemical Systems Lab (which had evolved to the Chemical and Biological Defense Command) and Natick's Soldier Systems Center. The Army Research Office realigned with Army Research Laboratory.

1999. Operational Test and Evaluation Command assumed DT mission from AMC and was designated Army Test and Evaluation Command (ATEC).

Since 2000, the Army's most significant organizational changes were the following:

- The Army created its LCMCs to "get products to the soldier faster, make good products even better, minimize life cycle cost, and enhance the synergy and effectiveness of the Army acquisition, logistics and technology (ALT) communities."[19] The LCMC structure aligns AMC's major subordinate commands with their associated PEOs. For example, PEO Aviation and PEO Missiles and Space are aligned under the Aviation and Missile Command (AMCOM) to create the AMCOM LCMC. Both PEOs act as deputies to the Commander, AMCOM, while also reporting directly to the Army's SAE for decisions on assigned acquisition programs.[20]

- Three LCMCs were activated between 2004 and 2005. Program reporting for PEOs in the LCMCs remains direct to the ASA(ALT). While the LCMC structure has achieved a primary goal of "one-face to the warfighter," its impact on improved acquisition outcomes is still evolving.

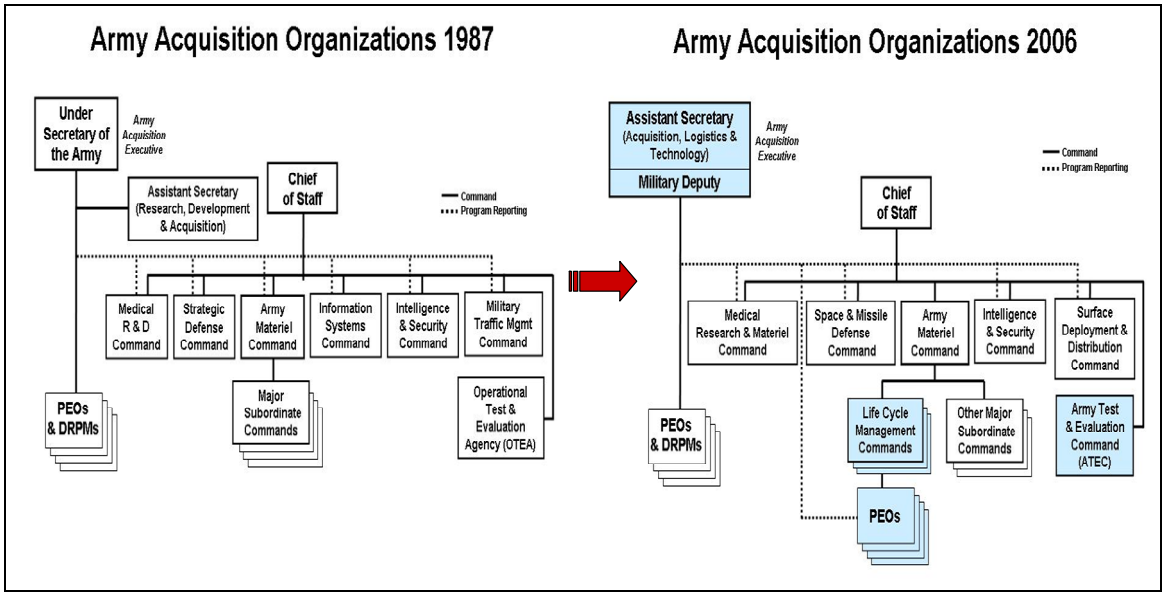
[19] Memorandum of Agreement, *Life-Cycle Management (LCM) Initiative*, between ASA(ALT) and Commander, AMC, 2 August 2004.

[20] Memorandum of Agreement,, *Life-Cycle Management (LCM) Initiative*, between ASA(ALT) and Commander, AMC, 2 August 2004.

- ACA, which was activated in 2002, is a Field Operating Agency reporting to the ASA(ALT).[21]
- The Research, Development and Engineering Command (RDECOM) was activated in 2002. Army Research Laboratory and all of AMC's major subordinate command's Research, Development and Engineering Centers were transferred to RDECOM by end 2003.
- The number of the military acquisition workforce members were reduced to allocate more end-strength for combat forces.

Figure 2-4 illustrates the net effect of these changes.

Figure 2-4. Army Acquisition Organization Changes: 1987 to 2006

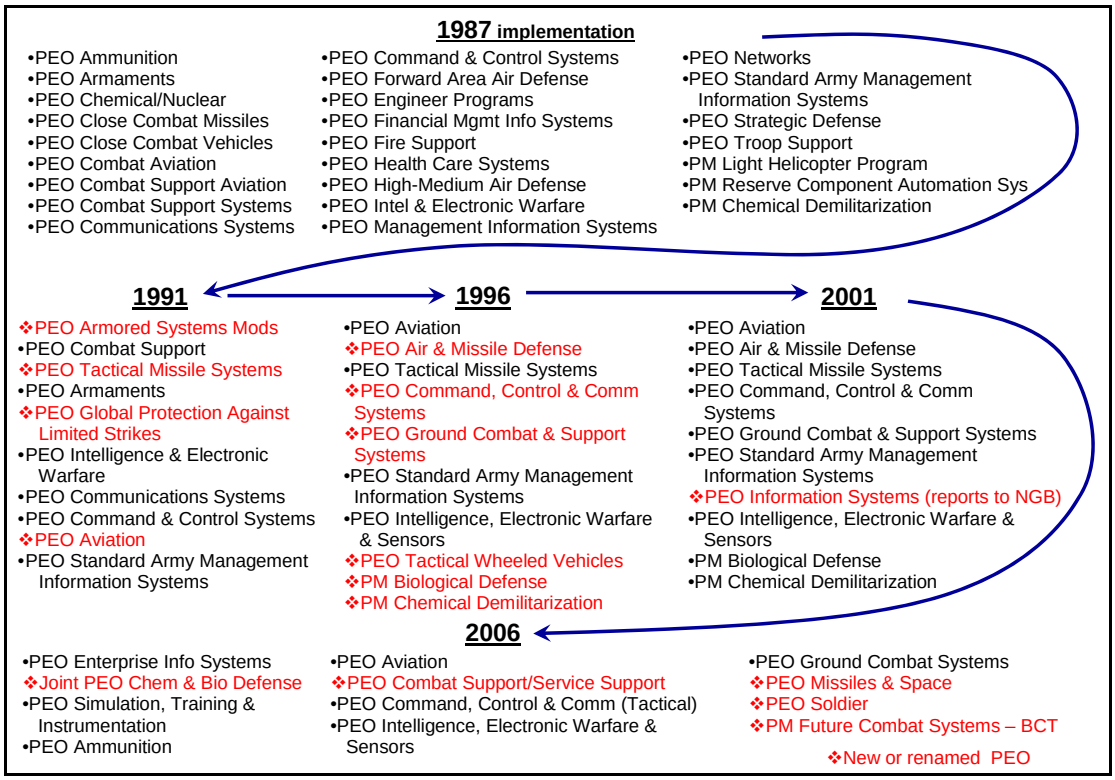


ARMY PEO STRUCTURE

Figure 2-5 shows the evolution of the Army's PEO structure from 1987 through 2006. The red text highlights new or re-designated PEOs in this figure and in all subsequent PEO figures in this chapter.

[21] The ACA consolidated similar and common-use contracts to reduce redundancy and leverage economies of scale. Two regional service-contracting centers and one Electronic Commerce/Commercial Contracting Center were established. Army Contracting Agency's major customers are the Installation Management Agency, and the Network Enterprise Technology Command. Its mission is providing contracting support to Army installations, information technology users, and the deployed warfighters. The Army is the only Service with a separate contracting agency. (See http://www.aca.army.mil/overview/index.htm.)

Figure 2-5. Evolution of Army PEO Structure



Some PEO assignments have changed as part of general centralization such as the establishment of PEO Missiles and Space to merge PEO Air, Space, and Missile Defense and PEO Tactical Missiles. Joint acquisition organizations, such as the Joint PEO Chemical and Biological, have been established to support the GWOT. PEO Standard Army Management Information Systems was recently re-designated as PEO Enterprise Information Systems.

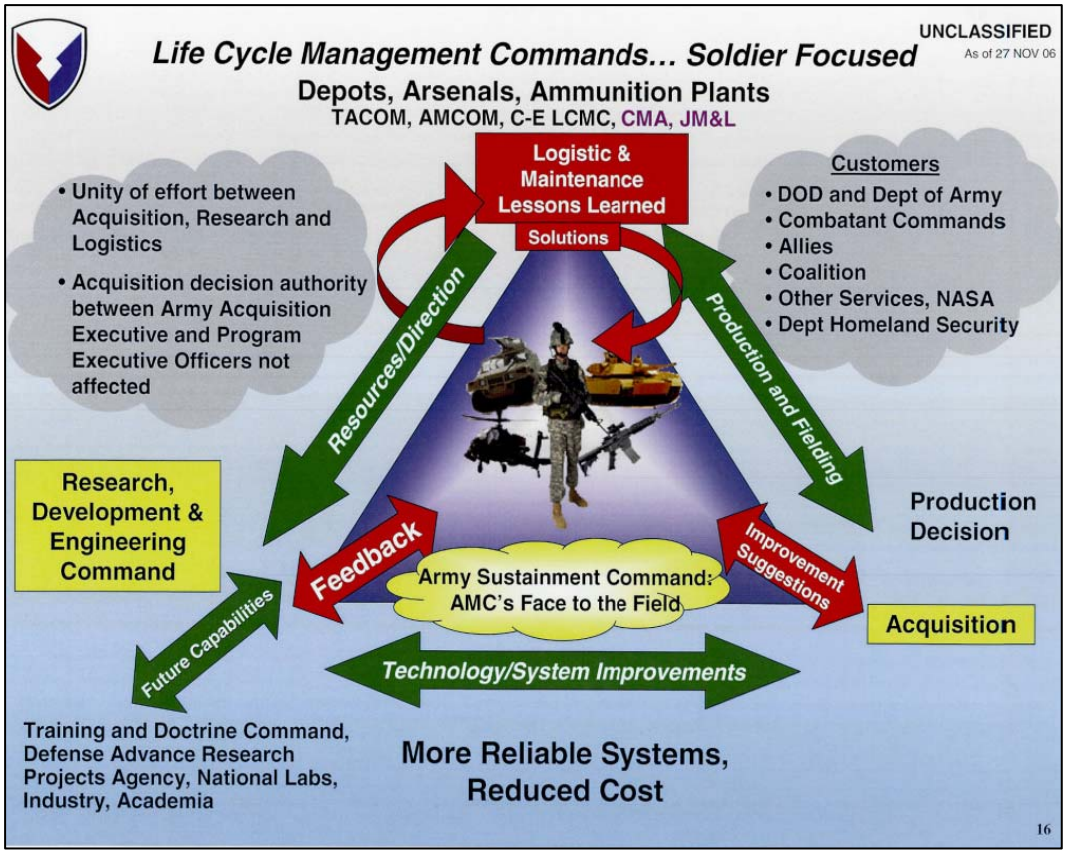
The following are some of the Army's major PEO changes since 2000:

- All acquisition programs were moved under the PEO structure with most PEOs under a LCMC, with dual reporting chains. Some PEOs are dual-hatted as a deputy within the command.
- Some PEO assignments have changed because of additional centralization, such as the establishment of PEO Missiles and Space from the merger of the PEO Air, Space, and Missile Defense and PEO Tactical Missiles.
- To support GWOT, the Army established PEOs such as the Joint PEO Chemical and Biological.

ARMY FORCE GENERATION INITIATIVE

Figure 2-6 illustrates a new Army effort—Army Force Generation Initiative—which integrates acquisition, research, and logistics to provide the soldier with more reliable equipment, faster, and at reduced costs.

Figure 2-6. Army Force Generation Initiative



See Addendum for more information about Army acquisition organizations.

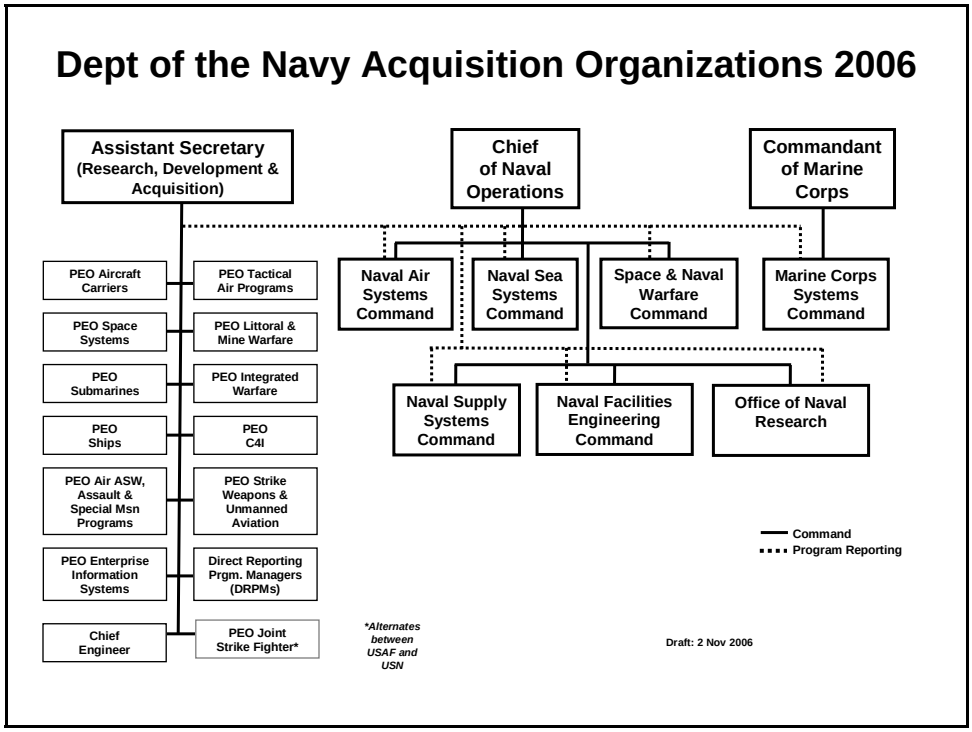
Navy

The ASN(RDA) is responsible for the development and acquisition of Navy and Marine Corps platforms and weapon systems. As displayed in Figure 2-7, the current ASN(RDA) organization consists of the Assistant Secretary's immediate staff, PEOs, DRPMs, SYSCOMs, and their field activities. The PEOs are responsible for the development and acquisition of specific classes of naval systems. DRPMs give high-level attention to acquisition programs that are considered to be especially challenging. They are established by the ASN(RDA) for a fixed, temporary period to resolve specific acquisition issues. The SYSCOMs and their field activities are also responsible for systems acquisition and supporting those systems in the operating Fleet. SYSCOM commanders report directly to the

ASN(RDA) on acquisition matters, and to the Chief of Naval Operations on command matters.

In 1985, the Navy eliminated its four-star Navy Materiel Command and aligned the SYSCOMs with Headquarters, Department of the Navy. In 1987, the SYSCOM commanders became dual-hatted as PEOs.

Figure 2-7. Current Department of Navy Organizational Structure



EVOLUTION OF NAVY ACQUISITION ORGANIZATIONAL STRUCTURE

The review team used 1987 as a baseline for changes to the Navy's organization for acquisition. The following describes the organizational structure as it existed in 1987:

- The Secretary of the Navy was the Navy Acquisition Executive, and was supported by two assistant secretaries: ASN (Research, Engineering and Systems) and ASN (Shipbuilding and Logistics).
- Navy SYSCOM commanders were dual-hatted as PEOs:
  - Naval Air Systems Command (for assigned programs)
  - Naval Sea Systems Command (for assigned programs)
  - Space and Naval Warfare Command (for assigned programs).

- Marine Corps Research, Development and Acquisition Command (also a SYSCOM), was not designated PEO.
- Naval Supply Systems Command provided logistics support to the Navy, Marine Corps, and joint and allied partners.
- Naval Facilities Engineering Command (NAVFAC) managed the planning, design, and construction of shore facilities for Navy activities around the world.
- The Office of Naval Research (ONR) coordinated and executed basic research (6.1) funding. It was also the parent organization of the Navy Research Laboratory.

The following are highlights of major changes from 1987 to 2006:

1988. Acquisition executive responsibility was delegated from Secretary of the Navy to the Under Secretary of the Navy.

1990. ASN(RDA), a new position, replaced ASN (Research, Engineering and Systems) and ASN (Shipbuilding and Logistics). The ASN(RDA) was designated Navy Acquisition Executive.

1990 and 1991. The Navy reorganized its PEO structure independent from, but affiliated with, the SYSCOMs.

1990–1997. SPAWAR was downsized, realigned, and relocated.

- Eighty percent of the personnel did not move to new duty locations.
- The number of military and civilian personnel were decreased from over 30,000 to 5,200 by 2005.

1992. The Office of Naval Technology and Office of Advanced Technology folded into ONR, which resulted in all S&T (6.1, 6.2, and 6.3) positions being placed in a single office. Marine Corps RDA Command became Marine Corps Systems Command (MARCORSYSCOM).

1995–1997. The primary Naval Air Systems Command (NAVAIR) site was relocated from Crystal City, Virginia, to Patuxent River, Maryland.

1998. Marine Corps Materiel Command was activated with MARCORPSYSCOM as a subordinate unit.

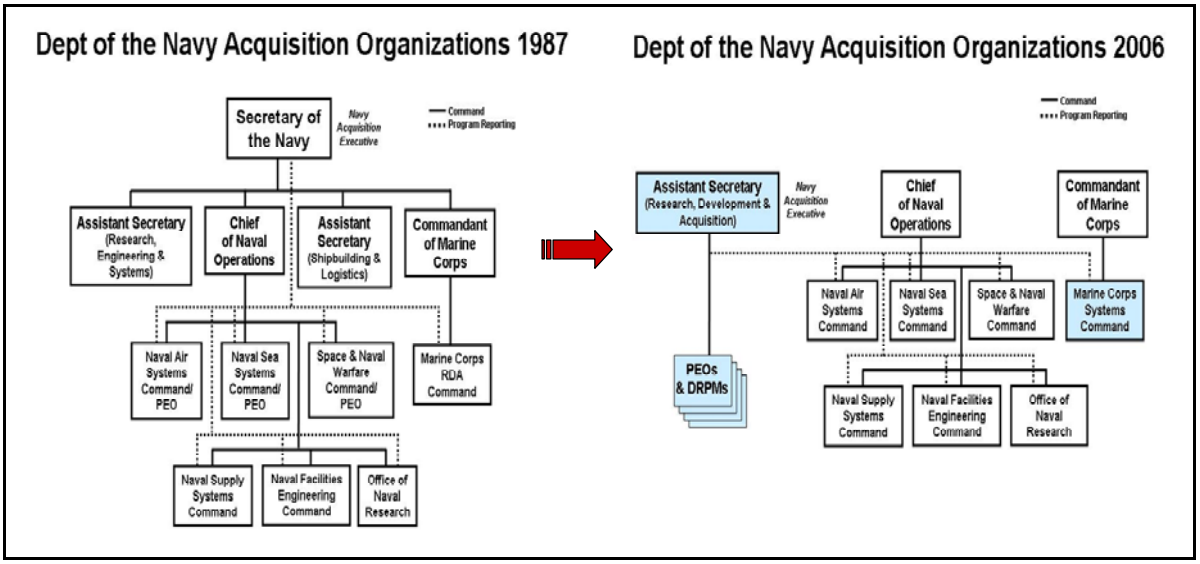
1999. MARCORPSYSCOM underwent major organizational changes to become a structure that emphasizes integrated management and teamwork.

From 2000 to 2006, the Navy implemented numerous changes to enhance the business practices of its acquisition organization. Some of the more significant changes included the following:

- The number of PEOs increased from 8 to 13 and DRPMs decreased to 1.
- In 2003, the Marine Corps Material Command merged into the new Marine Corps Logistics Command and MARCORSYSCOM became a direct report to the Commandant.
- NAVFAC and ONR assimilated selected workforce members into two new acquisition career fields: Facilities Engineering and Science and Technology. NAVFAC also implemented a major realignment by consolidating field activities into regional facilities engineering commands.

Figure 2-8 illustrates the net effect of the changes described above.

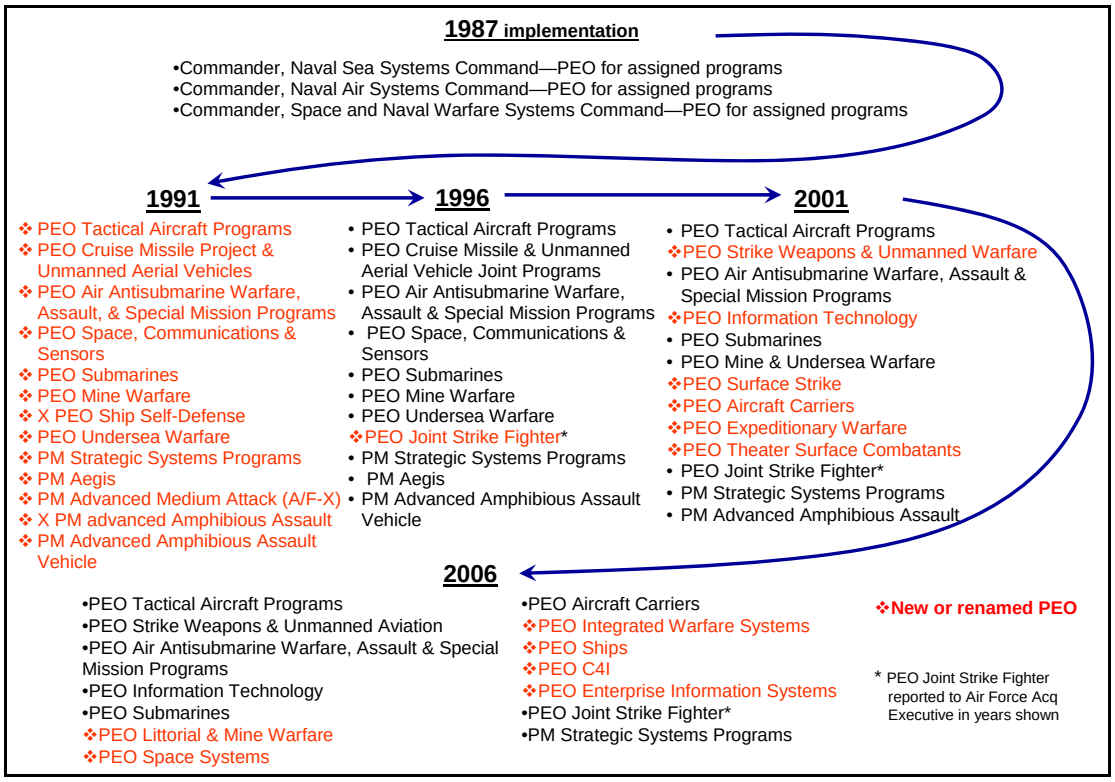
Figure 2-8. Navy Acquisition Organization Changes: 1987 to 2006



NAVY PEO STRUCTURE

The Navy established a PEO structure that was independent from, but affiliated with, the SYSCOMs in 1990 and 1991. The changes made after 1991 reflected the maturity of a system. Figure 2-9 illustrates the overarching changes.

Figure 2-9. Evolution of Navy PEO Structure



Some of the major PEO changes are outlined below:

- In 1987, the Navy dual-hatted the SYSCOM commanders as PEOs.
- During 1990 and 1991, PEOs were established independent from, but affiliated with, the SYSCOMs. SYSCOMs and affiliated PEOs operated under a formal PEO Operating Agreement approved by ASN(RDA). At that time, the Navy had eight PEOs and four DRPMs.
- PEO Command, Control, Communications, Computers, Intelligence (C4I) and Space was established in 2002, subsuming selected SPAWAR PMs and functional directorates. PEO Ships was also established, subsuming PEO Surface Strike.
- In 2003, the PEOs Littoral and Mine Warfare, and Integrated Warfare Systems (IWS) were established subsuming portions of PEOs for Theater Surface Combatants, Surface Strike, Expeditionary Warfare, Mine and Undersea Warfare, and Submarines.
- PEO Space was established in 2004 and all remaining SPAWAR acquisition programs were realigned to the affiliated PEOs.
- In 2005, the PEO C4I and Space became dual-hatted as Joint PEO (Joint Tactical Radio Systems or JTRS), reporting direct to USD(AT&L).

- PEO Information Technology (IT) was merged into PEO Enterprise Information Systems (EIS) in 2006.

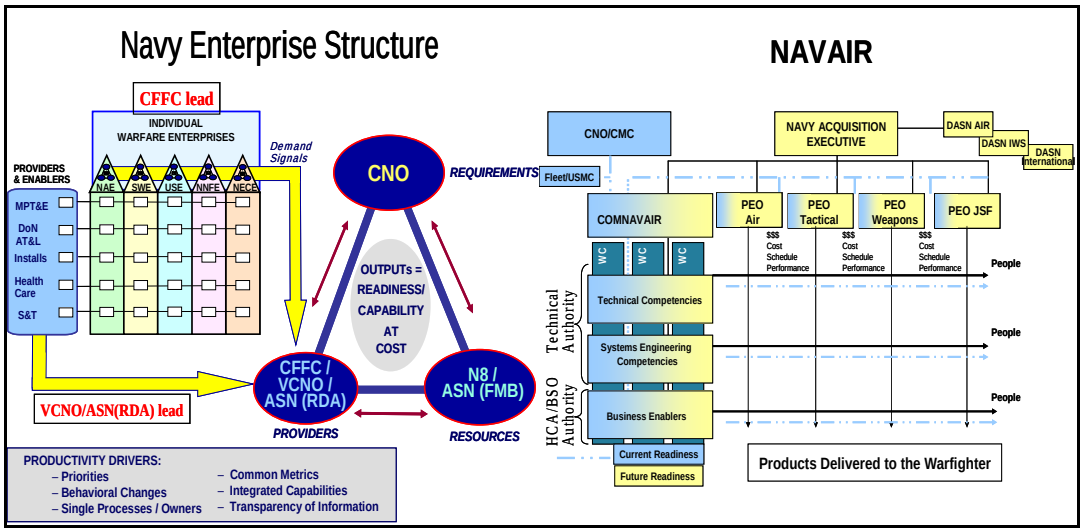
- The ASN(RDA), transferred all DRPMs, except for PM Strategic Systems, to the PEOs. The transfers were PM (Navy Marine Corps Intranet, NMCI) to PEO EIS; PM Distributed Common Ground Station—Navy (DCGS-N) to PEO C4I; and PM (Advanced Amphibious Assault) to MARCORPSYSCOM.

- By 2006, all but one DRPM had been realigned under the PEO structure. In 2006, the Navy had 13 PEOs.

NAVY ENTERPRISE STRUCTURE

The Navy is currently implementing an enterprise organizational model to better align requirements, resources, and force providers and enablers. As a provider, the Navy acquisition enterprise organizational model enables this future alignment and focuses the Navy acquisition community on delivering the right product to the warfighter on time and at the right price. Enterprise-wide initiatives and organizational changes will improve the execution of most acquisition processes as they meet a single metric, such as "number of aircraft ready for tasking." Figure 2-10 illustrates the Navy Enterprise structure as its being implemented by NAVAIR and how acquisition fits into and complements that structure.

Figure 2-10. Acquisition in the Navy Enterprise Structure

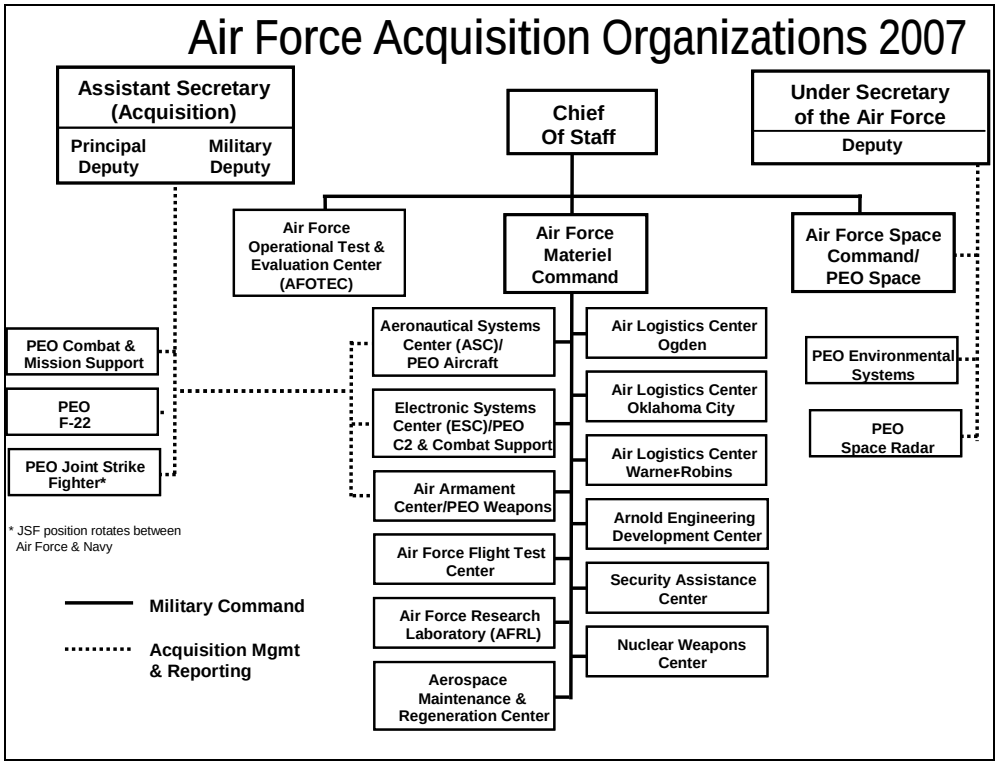


See Addendum for more information about Navy acquisition organizations.

Air Force

The SAF/AQ is responsible for the development and acquisition of Air Force platforms and weapon systems. The SAF/AQ's organization consists of the Assistant Secretary's immediate staff and PEOs. The PEOs are responsible for the development and acquisition of major Air Force systems or a group of systems in a specific mission area. Primary acquisition oversight responsibility resides within AFMC, the PEOs, and the three product centers: Aeronautical Systems Center (ASC), Electronic Systems Center (ESC), and Air Armament Center (AAC). AFMC was created in 1992 through the consolidation of AFLC and AFSC. AFMC is one of ten major commands reporting to Headquarters, United States Air Force (HQ USAF). Figure 2-11 shows the Air Force acquisition structure in 2007. Note that product centers report operationally to the AFMC Commander and also to SAF/AQ for acquisition matters.

Figure 2-11. Current Department of the Air Force Structure



EVOLUTION OF AIR FORCE ACQUISITION ORGANIZATIONAL STRUCTURE: 1987 TO 2007

The review team used 1987 as a baseline for changes to the Air Force's organization for acquisition. The following describes the organizational structure as it existed in 1987:

- The Air Force acquisition commands, product division and logistic center commanders, and Ballistic Missile Office were dual-hatted as PEOs for about 15 executive programs, reporting directly to the Assistant Secretary (Acquisition). Hundreds of non-executive programs continued to be managed internal to the commands and divisions.
- AFSC had five product divisions: Aeronautical, Electronic, Space, Munitions, and Human Systems.
- AFLC had five logistics centers; Ogden, Oklahoma City, Warner-Robbins, San Antonio, and Sacramento.
- Development test and evaluation was conducted by the Air Force Flight Test Center.
- Air Force Operational Test and Evaluation Center (AFOTEC) conducted independent operational test and evaluation.
- Arnold Engineering Development Center performed simulation flight testing and evaluation for all military departments and other government agencies.
- Four large laboratories (Armstrong, Phillips, Rome, and Wright) supported S&T efforts.
- Aerospace Maintenance and Regeneration Center provided storage, preservation, restoration, parts reclamation, and limited depot-level maintenance for aircraft and aerospace vehicles.

The following are highlights of the major changes from 1987 to 2006:

1989. The Ballistic Missile Office was re-designated as the Ballistics Missile Division (BMD) and Space Division became Space Systems Division.

1990. BMD was re-designated as the Ballistic Missile Organization and placed under the Space Systems Division. The Munitions System Division (MSD) was re-designated as the Air Force Development Test Center (AFDTC), responsible for non-nuclear armament DT&E.

1991. Defense Management Review (DMR) resulted in the Air Force appointing six PEOs independent from acquisition commands, located in Pentagon, and

reporting directly to the Assistant Secretary (Acquisition). The Air Force Communications Command (AFCC) became a field operating agency (FOA).

1992. Two four-star acquisition commands merged—AFSC and AFLC—creating AFMC and eliminating a four-star billet.

1992. Space Division was re-designated as the Space and Missile Systems Center, and other product divisions became "centers." Product and Logistics Centers became Designated Acquisition Commands (DACs) providing matrix support to PEO programs and managing non-PEO programs. At this time, AFMC had no direct programmatic role.

1993. AFCC was renamed Air Force Command, Control, Communications and Computer Agency. In 1996, it became the Air Force Communications Agency, a command under Air Force Communications and Information Center. In 2000, its status was changed back to a FOA.

1995. Ballistic Missile Office closed and Intercontinental Ballistic Missile (ICBM) development and acquisition moved to the ICBM System Program Office (SPO).

1997. Air Force Research Lab (AFRL) was formed consolidating four labs and the Air Force Office of Scientific Research Human Systems Center (HSC) was placed under command of Aeronautical System Command.

1998. HSC became the 311th Human Systems Wing. The Air Force Development Test Center (AFDTC) became AFMC's center for Air Armament.

1999. AFDTC was renamed the Air Armament Center.

2001. The Sacramento Air Logistics Center and San Antonio Air Logistics Center were closed following BRAC 1995 recommendations.

2001. The Secretary of the Air Force was designated as the EA for Space, an authority subsequently delegated to the USecAF. The EA for Space was given broad authorities and responsibilities over the national security space enterprise, to include designation as the Air Force Acquisition Executive for space-related acquisitions.

2001. The Space and Missile Systems Center was transferred to the Air Force Space Command and the PEO role for space acquisition was transferred to the Commander, SMC.

2003. In a major realignment, PEOs were again dual-hatted product center commanders.

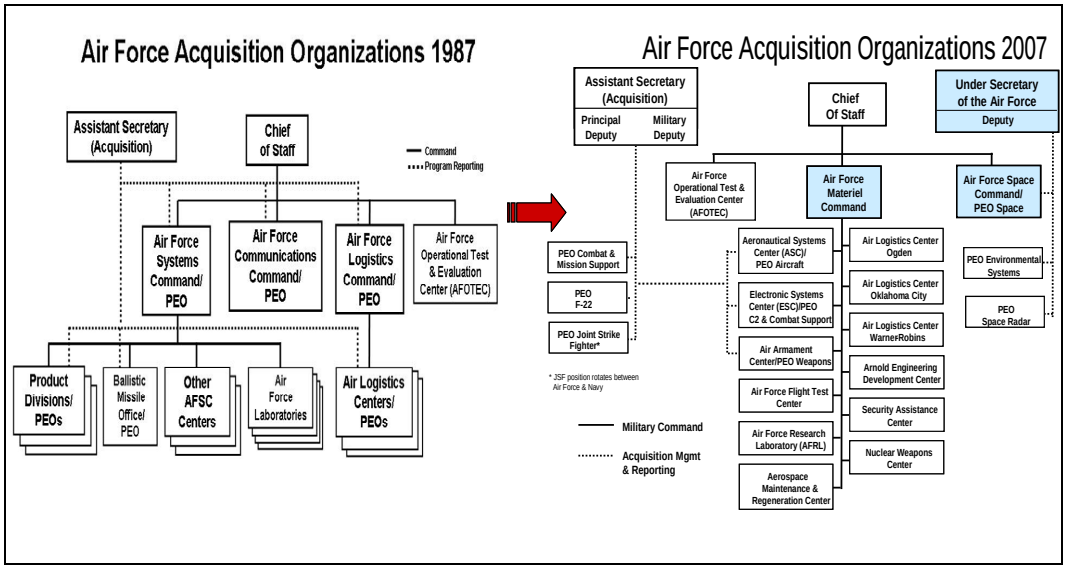
2004. AFMC and SMC initiated a reorganization to a "wing, group, and squadron" structure, moving away from acquisition unique structure to one closely resembling other major commands. In this realignment, product and Air Logistics

Center (ALC) commanders transferred their installation command responsibilities to Air Base Wing (ABW) commanders. This transfer allowed product and ALC commanders to devote more time to their acquisition duties.

2006. Nuclear Weapons Center was activated under AFMC.

Figure 2-12 illustrates the net effect of these changes.

Figure 2-12. Evolution of Top-Level Air Force Acquisition Organizations



AIR FORCE PEO STRUCTURE

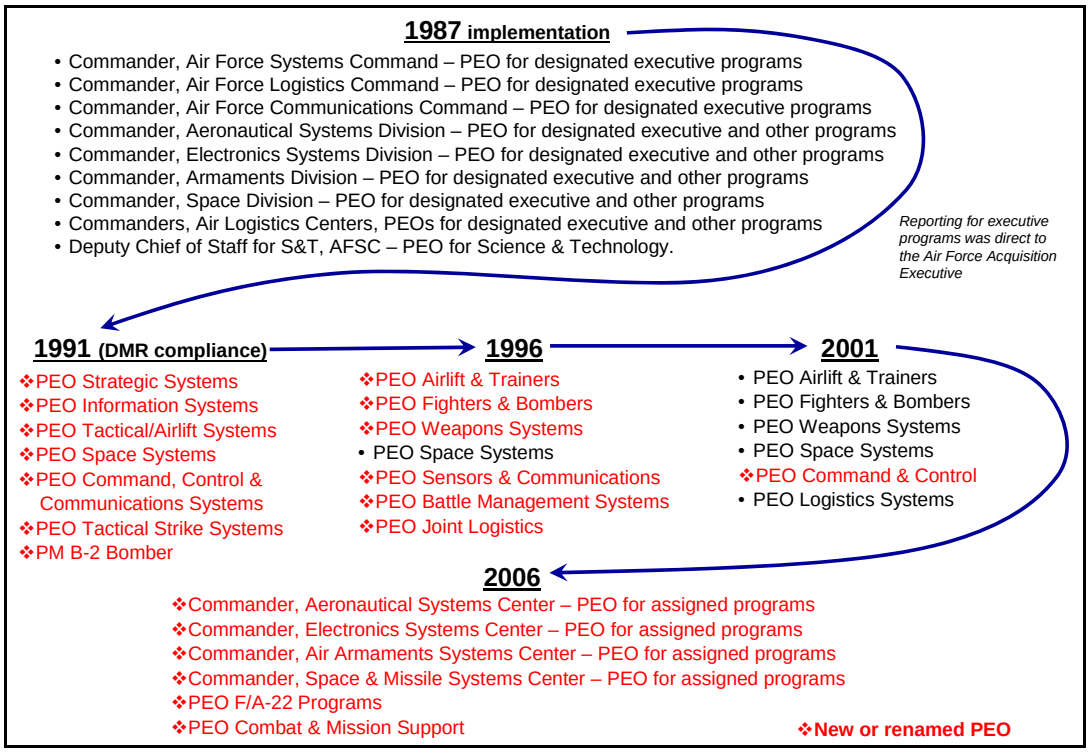
Figure 2-13 shows the evolution of the Air Force PEO structure from 1987 to 2006.

Some of the major changes highlighted in this figure are outlined below:

- In 1987, the Air Force dual-hatted the AFSC product division commanders as PEOs.
- In 1991, the Air Force created PEOs independent from the product divisions and stationed them at the Pentagon with the Assistant Secretary of the Air Force for Acquisition (ASAF/AQ).
- In 2003, the Air Force realigned its PEO structure to consolidate selected PEO responsibilities under its product center commanders. The following summarizes some of the major changes that occurred in this realignment and dual-hatting:
  - Commander, Aeronautical Systems Center, assumed role of PEO (Aircraft), combining program management functions previously executed by PEO (Fighters and Bombers) and PEO (Airlift and Trainers).

- Commander, Air Armament Center, assumed the role of PEO, Weapons.
- Commander, Electronic Systems Center, assumed the role of PEO, Command and Control and Combat Support.
- PEO for the Joint Fighter Aircraft (F/A-22) was activated in 2003.
- Other Air Force PEOs—the F/A-22 Raptor, Joint Strike Fighter,[22] and Combat and Mission Support—remained external to the product center commands.

Figure 2-13. Evolution of Air Force PEO Structure

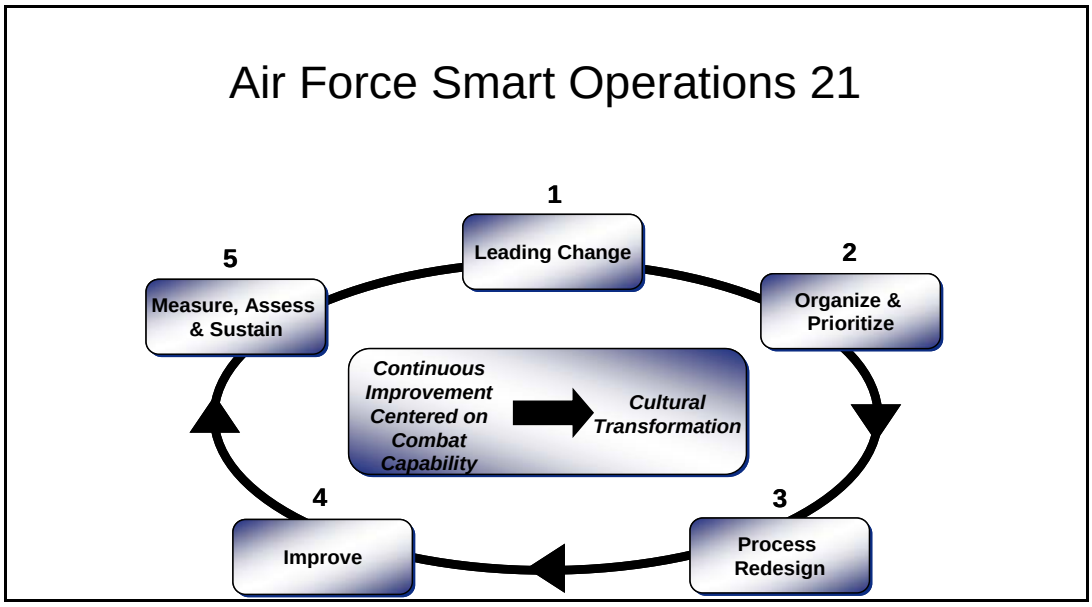


AIR FORCE SMART OPERATIONS 21

The Air Force is implementing Air Force Smart Operations for the 21st Century (AFSO 21). It will apply to all organizational levels: strategic, operational, and tactical and for all key processes. Figure 2-14 displays the continuous process improvement framework of this initiative.

[22] JSF rotates between Navy and Air Force SAEs: when the PEO is Navy, JSF reports to the Air Force SAE; when the PEO is Air Force, JSF reports to the Navy SAE.

Figure 2-14. AFSO 21 Framework



Some of the earliest successes in applying LEAN concepts occurred in AFMC depots. In a March 2006 "Letter to Airmen," the Honorable Michael W. Wynne, Secretary of the Air Force, wrote:

> In my December "Letter to Airmen," I talked about expanding LEAN concepts beyond just depot operations. That effort has now grown into *Air Force Smart Operations 21 (AFSO 21)*, a dedicated effort to maximize value and minimize waste in our operations. AFSO 21 is a leadership program for commanders and supervisors at all levels, looking at each process from beginning to end. It doesn't just look at *how* we can do each task better, but asks the tougher and more important question: *Why* are we doing it this way? Is each of the tasks relevant, productive, and value added? In other words is it necessary at all? With AFSO 21, we will march unnecessary work out the door–forever.
>
> AFSO 21 signifies a shift in our thinking. It is centered on processes (groups of tasks) rather than tasks alone, which allows us to gain insights into the value, or lack of value, in each task we perform. For example, why does an EPR take 21 days at some bases to process, and only 8 at another? We must do better across the entire Air Force, and no process is immune from this critical review. AFSO 21 is built on successful principles from the corporate world, and has already yielded results in the Air Force. AFMC has used the tenets of AFSO 21 to put an extra 100 tankers back on the line each day. AFSO 21 is about working smarter to deliver warfighting capabilities.[23]

See Addendum for more information about Air Force acquisition organizations.

[23] Michael W. Wynne, "Letter to Airmen," March 8, 2006 http://www.af.mil/library/viewpoints/secaf.asp?id=219.

SUMMARY OF ACQUISITION STRUCTURES IN THE MILITARY DEPARTMENTS

While acquisition missions are fundamentally the same within each military service, their organizational structures are significantly different. Each Service has a different workforce capability construct relative to career field mix, workforce size, and military composition. Most use support contractors to assist in the accomplishment of the acquisition mission.

The review team concluded that organizational design has not been a driving factor in acquisition performance or in improving outcomes. The challenge remains achieving the right organizational construct with the right-shaped acquisition workforce that also integrates key process improvement.

DEFENSE AGENCIES

At the highest level, defense agencies and field activities are led by directors who report to a top-level official within the Office of the Secretary of Defense. For acquisition matters, the agencies and field activities report to either the USD(AT&L) or ASD(NII). Their organizational structures can be substantially different from the Services' acquisition organizations because of differing missions and, in some instances, interrelationships with organizations outside of DoD. Each Agency has a mission area focus that can be largely derived from its title. Listed below are the defense agencies that participated in this review, either by completing the survey, participating in an interview, or both:

- Defense Logistics Agency (DLA)
- Defense Contract Management Agency (DCMA)
- Defense Advanced Research Projects Agency (DARPA)
- Defense Business Transformation Agency (BTA)
- Defense Commissary Agency (DeCA)
- Defense Contract Audit Agency (DCAA)
- Defense Information Systems Agency (DISA)
- Defense Intelligence Agency (DIA)
- Defense Security Cooperation Agency (DSCA)
- Defense Security Service (DSS)

- Defense Threat Reduction Agency (DTRA)
- Missile Defense Agency (MDA)
- National Geospatial-Intelligence Agency (NGA)
- National Security Agency (NSA).

Some of these agencies have designated a Component Acquisition Executive (CAE).[24] While all of the Services employ a PEO and PM structure, only about half of the agencies incorporate a PEO structure in their organization. Like the Services, Agencies that have PEOs also have PMs.

The following sections describe the current organizational structures of DLA and DCMA and how they evolved to those structures. Several other Agencies have a separate annex in the Addendum of this report providing greater detail on their specific acquisition responsibilities. DLA and DCMA were selected for discussion in the main body of this report because of their breadth of responsibilities and unique nature of their acquisition missions.

Defense Logistics Agency Structure

As DoD's only logistics combat support agency, DLA manages supplies in eight supply chains: energy, subsistence, clothing and textiles, medical, construction and equipment, aviation, land, and maritime.[25] In the 1990s, DLA gradually reorganized to support the warfighter more effectively and efficiently. DLA Headquarters underwent a major reorganization in 1995 during its relocation from Cameron Station, Virginia, to Fort Belvoir, Virginia. In 2005, DLA launched a business system modernization initiative, adding a performance-based logistics branch.

DLA continued to transform its business processes from a commodity-buying structure to one focused on supply chain management supported by common business rules, jobs, roles, and responsibilities across the enterprise. It established a PEO in 2000 with oversight of its automated information system (AIS) programs, with acquisition oversight being provided by the acquisition executive. DLA has recently realigned its acquisition organization as a direct report to the Director, DLA, to emphasize the importance of acquisition to DLA's mission.

Figure 2-15 shows DLA's evolution and the transfer of contract administration roles from 1987 to 2007.

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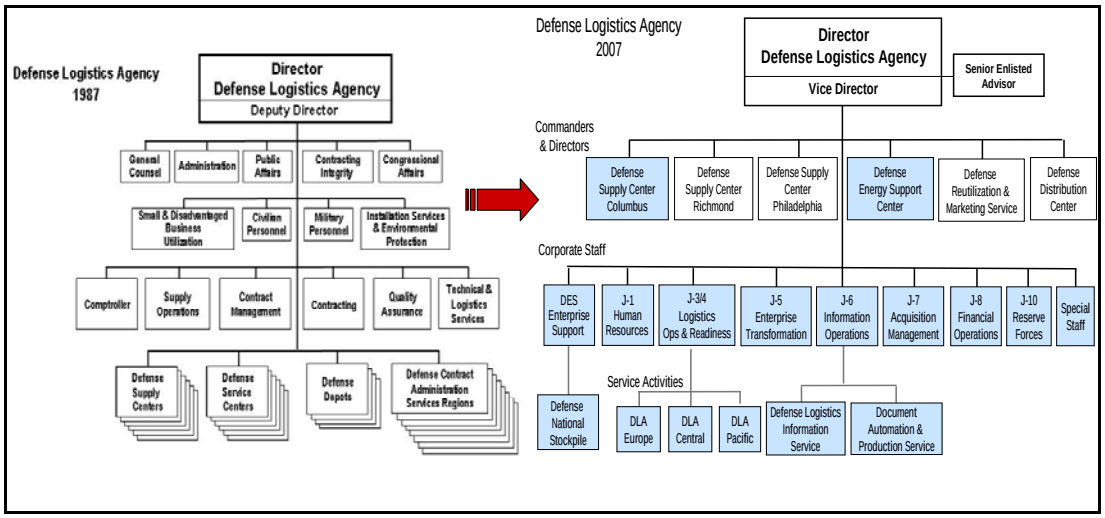
[24]The Director, Missile Defense Agency, is designated the Ballistic Missile Defense Acquisition Executive and is the milestone decision authority up to Milestone C for programs funded by the Agency.

[25] DLA and DCMA were selected as Agency examples due to their breadth and unique nature of their acquisition missions. Other 4th Estate organizations are discussed in the Section 814 report annexes.

Figure 2-15. Evolution of DLA



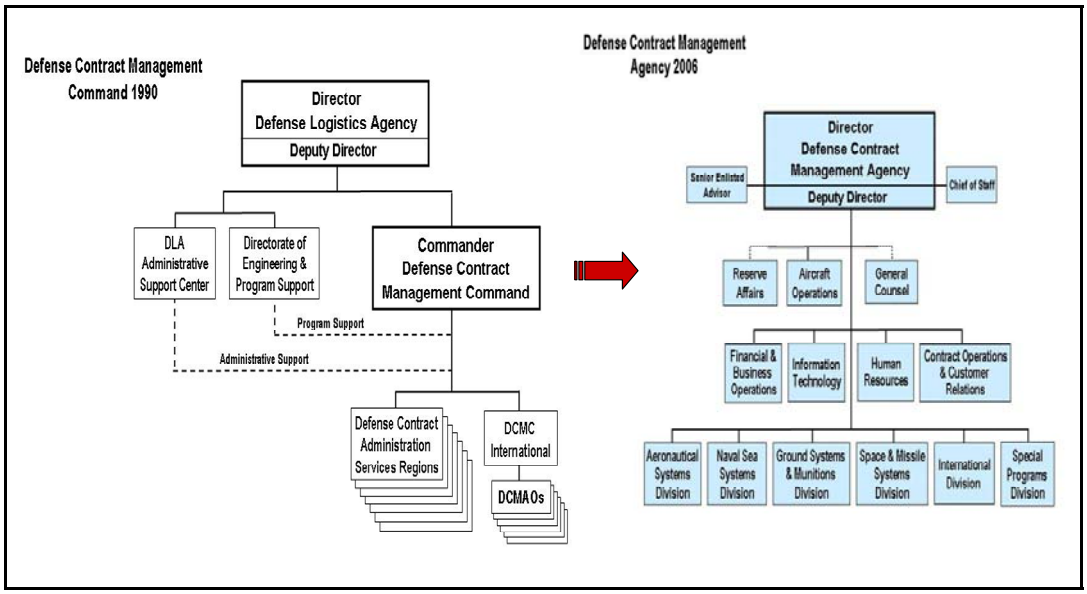
In February 1990, in accordance with Defense Management Report Decision 916, the Defense Contract Management Command (DCMC) was established within DLA to apply consistent policies and standards to the contract administration process. The transfer of contract administration from the Services and other defense agencies to DCMC was a major change. As DLA expanded its logistics combat support responsibilities for weapons systems, the complexity and scope of its contracting mission increased. In March 2000, DCMC was re-established independent of DLA and renamed DCMA. See the Addendum for additional information about DLA.

Defense Contract Management Agency Structure

DCMA, with few exceptions, is responsible for contract administration throughout DoD. It is a combat support agency responsible for more than 300,000 active contracts with a face valued at $1.773 billion. DCMA is organized in six divisions: Aeronautical Systems, Naval Sea Systems, Ground Systems and Munitions, Space and Missile Systems, International, and Special Programs. Its workforce of 10,000 is spread across 47 contract management offices and performs work at more than 800 operating locations worldwide. DCMA has a Defense Acquisition Workforce Improvement Act (DAWIA) workforce of 7,962.[26] Figure 2-16 shows the transfer of the contract administration function from DLA to DCMA in 2000 and the establishment of DCMA as a separate agency.

[26] AT&L Workforce Datamart, FY 2006.

Figure 2-16. Evolution of DCMA



Although DCMA's workforce has been reduced in recent years, it is one of the few acquisition organizations that have absorbed the reductions without augmenting their staff with support contractors. In addition, DCMA has a 13 percent overall attrition rate, with 10 percent retirements annually—that is nearly three times the retirement attrition rate the AT&L workforce averages per year. Further, since many of those retiring hold the same certification and grade level as those with 3 to 25 years of service, DCMA also finds itself without the typical bench strength found in other acquisition organizations. See Addendum for additional information about DCMA.

Other Defense Agencies

In addition to DLA and DCMA, four other defense agencies described briefly in subsequent paragraphs also have substantial acquisition responsibilities. More specific organizational information on some of these agencies is available in the Addendum to this report.

Business Transformation Agency: BTA is responsible for successful definition and execution of DoD-wide business improvement initiatives and system investments. The Agency operates under the authority, direction, and control of the USD(AT&L).

Defense Information Systems Agency: DISA is a combat support agency responsible for planning, engineering, acquiring, fielding, and supporting global net-centric solutions to serve the needs of the President, Vice President, Secretary of Defense, and other DoD Components, under all conditions of peace and war. DISA's transformation placed new focus on World-Class Acquisition, a process to acquire quality products that satisfy user needs and provide measurable

improvements to mission capability at a fair and reasonable cost. DISA established a CAE to achieve successful implementation of the net-centric vision by providing tailored acquisition policies, processes, procedures, tools, life-cycle oversight, and career management in compliance with statutory and regulatory requirements (see the Addendum.)

Missile Defense Agency: Missile Defense Agency's (MDA's) mission is to develop an integrated Ballistic Missile Defense System to defend the United States, its deployed forces, friends, and allies against ballistic missiles of all ranges in all phases of flight. The Director, MDA, is the Acquisition Executive for all ballistic missile defense programs and systems. Program managers report directly to the director, who acts as the Milestone Decision Authority for development (see the Addendum.)

National Geospatial-Intelligence Agency: NGA provides timely, relevant, and accurate geospatial intelligence in support of national security. It provides geospatial intelligence in all its forms, and from whatever source—imagery, imagery intelligence, and geospatial data and information—to ensure a comprehensive knowledge foundation for planning, decision, and action. The NGA acquisition directorate enables, acquires, and provides systems, supplies, services, and business solutions that advance NGA's national leadership role in geospatial intelligence. To support this mission, the acquisition directorate is responsible for the acquisition of systems that advance a national leadership role in the imagery, imagery analysis, and geospatial information communities. The directorate focuses on pre-acquisition studies; the acquisition program; systems engineering; and the advancement of systems engineering, acquisition and contracting, infrastructure engineering, and imagery and geospatial sciences (see the Addendum.)

Defense Field Activities

The following defense field activities participated in this review, either by completing the survey, participating in an interview, or both:

- American Forces Information Service (AFIS)
- Department of Defense Education Activity (DoD EA)
- Defense Technology Security Administration (DTSA)
- Test Resource Management Center (TRMC)
- TRICARE Management Activity (TMA)
- Washington Headquarters Service (WHS).

Of these six activities, TRMC has a significant support role in the testing and evaluation (T&E) of major acquisition programs. It is responsible for the Major Range and Test Facility Base (MRTFB) to provide adequate testing support in

support of development, acquisition, fielding, and sustainment of defense systems and to maintain awareness of other T&E facilities within and outside of the DoD and their impacts on DoD requirements.

Combatant Commands

Two of the nine COCOMs have significant acquisition capabilities: SOCOM and TRANSCOM. Additionally, the Joint Forces Command (JFCOM) has significant input by establishing capability needs at the front end of the acquisition process. The following is a brief description of the acquisition responsibilities of these COCOMs:

- SOCOM conducts its acquisition efforts through its Special Operations Acquisition and Logistics Center (SOAL) and its five PEOs and four directorates.

- TRANSCOM is a relatively new acquisition command. It received its acquisition authority in 2005. It also uses a PEO and PM structure to manage its acquisitions processes.

- JFCOM is functionally responsible to the Chairman, Joint Chiefs of Staff, for leading joint concept development and experimentation (CDE) by integrating experimentation into the development of all joint concepts. As the DoD EA agent for joint warfighting experimentation, the Commander, JFCOM, develops combined operational warfighting concepts and integrates multinational and interagency warfighting transformation efforts with joint CDE in coordination with other COCOMs. JFCOM also coordinates the efforts of the services, COCOMs, and agencies to support joint interoperability and future joint warfighting capabilities, and it coordinates with the Joint Staff/J-7 and concept authors to translate actionable recommendations into Joint Capabilities Documents and Joint Doctrine Change Recommendations (DCRs) as appropriate. It forwards joint capability documents to Joint Staff/J-8 for JCIDS analysis and Joint DCRs resulting from joint experimentation to the Joint Requirements Oversight Council (JROC) through the appropriate Functional Capabilities Board (FCB) for coordination, recommendation, and endorsement.

- Commander, JFCOM, has been designated as the Chairman’s advocate for joint warfighting interoperability. JFCOM provides the warfighter perspective during the development of joint concepts and integrated architectures to ensure that joint forces have interoperable systems.

More specific information can be found in the Addendum.

JOINT ACQUISITION

Three organizational constructs for joint acquisition were reviewed:

- Joint commands or agencies that acquire materiel for their own use or in support of other joint commands or agencies:
  - Missile Defense Agency
  - Joint Forces Command
  - Special Operations Command
  - Transportation Command.
- Joint program executive offices (JPEOs) created for groups of special purpose systems required for use by two or more services or agencies:
  - JPEO, Chemical and Biological Defense
  - JPEO, Joint Tactical Radio System.
- Joint acquisition programs—established with one Service or Agency designated as lead—operating in a multi-service or multi-agency environment for the development and fielding of materiel systems to fulfill a joint need:
  - Joint Lethal Strike Program
  - Joint Light Tactical Vehicle
  - Joint Cargo Aircraft.

Programs in the second and third category are the traditional "joint acquisition" programs.

All COCOMs have some limited acquisition authority, but only SOCOM and JFCOM have systems acquisition authority. TRANSCOM has contracting authority for commercial transportation services. All defense agencies have acquisition authority to support the military departments in supplying and sustaining the COCOMs.

The level of COCOM participation in the joint requirements process was found to be problematic in previous studies, such as those conducted by the Center for Strategic and International Studies, Defense Acquisition Performance Assessment, and Defense Science Board. JROC recently opened the process to key partners, including COCOMs, thus increasing support for COCOM requirements in the POM, and increasing their voice in determining joint warfighting capabilities

(requirements) to be developed and fielded to COCOM component commands by the military departments.

Responses to the survey indicated that the military departments and defense agencies are involved in 284 traditional joint acquisition programs. This environment presents some unique challenges:

- Difficulty in getting the participating services or agencies to agree on requirements.
- Difficulty obtaining priority on funding and staffing for the joint program office.
- Poorly documented roles and responsibilities because of the lack of a charter or one that is poorly written.
- Parochialism and competition among lead and participating services or agencies.

The Aldridge Report[27] recommended a moderate approach of establishing joint program executives for functional capability categories reporting through the SAEs. DoD has two JPEOs: Chemical and Biological Defense, which reports to the Army, and JTRS, which reports directly to USD(AT&L).

In 2005, the JTRS program was chartered as a JPEO with clearly stated directive authority for management, funding, and staffing—including performance rating and technical management decisions. Its charter also clearly delineates roles and responsibilities of the offices and agencies responsible for support of the JPEO. This charter implements a management structure designed to mitigate the problems identified and can serve as a model for future joint programs.

LEADERSHIP INITIATIVES

Several leadership efforts are ongoing that are striving to integrate organizational change with mission-aligned process improvements to more deliberately address acquisition outcomes. They include the following:

- OUSD(AT&L) recently reorganized and streamlined its review processes to improve major program oversight and execution. Specific examples include Portfolio Management; Tri-Chair investment panel for the new Concept Decision process for major programs; and the restructured Defense Acquisition Executive Summary (DAES) reviews.[28] OUSD(AT&L) is collaborating with component acquisition executives and senior procurement

[27] *Joint Defense Capabilities Study: Improving DoD Strategic Planning, Resourcing and Execution to Satisfy Joint Capabilities, Final Report*, January 2004.

[28] Secretary of Defense, *Defense Acquisition Transformation Report to Congress, John Warner National Defense Authorization Act for FY 2007*, February 2007, p. 9.

executives to leverage centers of excellence for improving services acquisition.

- Capability Portfolio Management is an effort to help senior leaders to consider strategic trades across previously stove-piped areas and to better understand the implications of investment decisions across competing priorities. In parallel, a capability framework is being developed as the basis for building on the test cases for an institutional capability portfolio across DoD's "Big A" acquisitions.[29]

- OUSD(AT&L) established a management structure for consistent reviews and approval of acquisitions of services. Acquisition of service categories were established and appropriate decision authorities designated based upon estimated dollar value or special interest.

- The Navy is implementing an enterprise organizational model to better align requirements, resources, and force providers. Enterprise-wide initiatives and organizational changes are expected to improve both execution and acquisition outcomes. These initiatives are driven by the use of single metrics, such as NAVAIR's "number of aircraft ready for tasking."

- The Air Force Installation Contracting Realignment effort is a strategic sourcing initiative to create a more efficient and effective installation contracting organization. This initiative involves realignment of positions and workload from 71 CONUS installations into regional contracting organizations and centers of excellence. Distinguishing characteristics of the alignment are: one lead major command, creation of five regional centers, and the establishment of centers of excellence.

Although early in the implementation phase, these changes are focused on improved mission success and outcomes.

ORGANIZATIONAL FINDINGS

The team concluded that organizational structure is not the driving factor in acquisition performance or in improving outcomes. The challenge is to obtain the right balance of organizational construct; a right shaped and trained acquisition workforce; and key processes that drive disciplined decision making in a "Big A"

[29] "Big A" deals with strategic choice: How DoD determines which assets and investments to acquire to deliver an overall capability. Taking a holistic approach to acquisition transformation involves reviewing all elements of the Defense Acquisition System. Implementing transformational capabilities requires enhanced workforce productivity, collaborative organizations, realistic and stable budgeting, and well-defined requirements versus various adjustments within the tactical acquisition processes ("small a"). See *Defense Acquisition Transformation Report to Congress, John Warner National Defense Authorization Act for FY2007,* February 2007, p. 2. The four test pilot cases are Joint Command and Control, Joint Network Operations, Battlespace Awareness, and Joint Logistics.

context. As described in the preceding paragraphs, the Department has initiated several significant process changes that show great promise relative to improving both predictability and successful acquisition outcomes.

The team found that the Army, Navy, and Air Force acquisition organizational constructs differ greatly in design approach and workforce size. In 2006, the approximate size of the acquisition workforce assigned to the Army was 45,443, the Navy had 40,651, and the Air Force had 25,075.[30] Moreover, the functional composition of each Service's acquisition workforce also differs. For example, the approximate number of individuals assigned to the contracting functional community is as follows: Army, 10,000 (22 percent of Army's total workforce); Navy, 5,000 (12 percent of Navy's total workforce); and Air Force, 7,000 (29 percent for the Air Force). Another striking example of the differing composition of each Service's workforce is the engineering functional community: Army, 12,000 (26 percent of the Army's total workforce); Navy, 17,000 (41 percent); and Air Force, 6,000 (25 percent).[31] The number of civilians and military personnel assigned to acquisition organizations has also varied over time, with an overall decrease of 55 percent from 1987 to 2006.[32]

The review team further found the following concerning the state of DoD acquisition organizations:

1. **DoD acquisition organizations are continuously evolving**. Virtually all of the respondents reported that their organizations had restructured to some extent to meet their acquisition mission requirements. They were confident that their current structure was appropriate for the current requirements. In a few cases, they reported that they were in the process of reorganization to achieve the optimal structure. The most significant outcomes of most organizational changes were better mission focus and improved productivity and efficiency—not improved acquisition outcomes.

2. **Changes in acquisition organizations did not have improving acquisition outcomes as a sole purpose**. The changes were made for many reasons, but primarily to improve work productivity and efficiency. Unless addressed, other process and organizational culture tendencies—relative to overly optimistic budget, schedule, and technology readiness forecasts—are likely to lead to programs being delivered late and over budget.

3. **Organizational change is not enough to offset other shortcomings**. Organizational changes by themselves cannot offset the requirement for

[30] AT&L Workforce Datamart, FY 2006. Statistics shown for AT&L military and civilian.

[31] AT&L Workforce Datamart, FY 2006. Statistics shown for AT&L military and civilian.

[32] Data are from various sources, including the database at the Defense Manpower Data Center. The count includes all civilian employees and military members assigned to designated acquisition organizations, whether performing professional acquisition functions (such as procurement, program management, and engineering), support functions, or unrelated duties in the organization.

adequate, consistent funding, and stable leadership. They also have not precluded the use of immature technology in acquisition programs.

4. **Joint acquisition programs have problems with cost, schedule, and performance similar to single-service programs, but they are amplified by the multi-service and -agency environment**. The restructured JTRS program features a management framework that mitigates many of these problems.

5. **Several significant organizational changes have been made over the last 25 years**. These include creation of the Under Secretary of Defense (Acquisition), now the USD(AT&L); establishment of the PEO structure; reduction in the number of four-star acquisition commands; and dual-hatting the Under Secretary of the Air Force as DoD's EA for Space acquisition.

The military departments have used reorganizations to create better visibility, communications, and alignment among the requirements community, the acquisition community, and the warfighters. For example, the Army created LCMCs to "get products to the soldier faster, make good products even better, minimize life cycle cost, and enhance the synergy and effectiveness of the Army acquisition, logistics and technology (ALT) communities."[33] The LCMC structure aligns AMC's major subordinate commands with their associated PEOs. For example, PEO Aviation and PEO Missiles and Space are aligned under the Aviation and Missile Command to create the Aviation and Missile Command LCMC. Both PEOs act as deputies to the Commander, AMCOM,[34] while also reporting directly to the Army's SAE for decisions on assigned acquisition programs."[35] Other examples include AFMC and SMC, which recently changed their field organization structure to create a wing, group, and squadron structure.

The primary focus and benefits of most organizational changes were to improve management structure, process, efficiency, and other outcomes. Variations in organizational structure were often designed to match the organization with the program phase and nature of a program, whether weapon systems, information systems, or services.

The next chapter addresses the DoD acquisition workforce.

[33] Memorandum of Agreement,, *Life-Cycle Management (LCM) Initiative*, between ASA(ALT) and Commander, AMC, 2 August 2004.

[34] https://redstoneappsrv1.redstone.army.mil/apws/apws_home?p_cat_id=2

[35] Memorandum of Agreement,, *Life-Cycle Management (LCM) Initiative*, between ASA(ALT) and Commander, AMC, 2 August 2004.

Chapter 3
Workforce

SECTION 814 REQUIREMENTS

(1D) Identify any gaps, shortfalls, or inadequacies, related to acquisitions in the current structures and capabilities of the organization

(1E) Identify any recruiting, retention, training, or professional development steps that may be needed to address any such gaps, shortfalls, or inadequacies

OVERVIEW

The Department is committed to ensuring its acquisition professionals are highly qualified and motivated to deliver warfighting capabilities in support of U.S. national security objectives. USD(AT&L) has established people as the office's top priority, as captured in AT&L Goal 1: "High Performing, Agile, and Ethical Workforce."[1]

Each acquisition organization has a different workforce capability construct relative to career field mix, size, and military composition. As noted previously, in 2006 the Army had an acquisition workforce of 45,443, while the Navy has 40,651, and the Air Force has 25,075. Engineering[2] represents 26 percent, 41 percent, and 25 percent, of each respective Service. The military composition of each service's acquisition workforce represents 3 percent, 10 percent, and 37 percent, respectively. Broad variations exist among the Services in almost every workforce attribute. Most the Components use support contractors to assist in the accomplishment of the acquisition mission.

Almost every acquisition study, including the recent DAPA report,[3] concluded that DoD must continue to improve acquisition workforce quality. The Department agrees with these assessments and is leaning forward to thoughtfully address

[1] The USD(AT&L) Goals are 1: High Performing, Agile, and Ethical Workforce; 2: Strategic and Tactical Acquisition Excellence; 3: Focused Technology to Meet Warfighting Needs; 4: Cost-effective Joint Logistics Support for the Warfighter; 5: Reliable and Cost-effective Industrial Capabilities Sufficient to Meet Strategic Objectives; 6: Improved Governance and Decision Processes; and 7: Capable, Efficient, and Cost-effective Installations.

[2] The term "Engineering" refers to both Systems Planning, Research Development and Engineering (SPRDE) career fields further described in "The DAWIA Count" section. This term is used interchangeably with SPRDE in this report.

[3] *A Report by the Assessment Panel of the Defense Acquisition Performance Assessment Project for the Deputy Secretary of Defense*, January 2006, pp. 12 and 28 to 31.

workforce capabilities and shortfalls. In testimony before Congress, the USD(AT&L) committed to publish the AT&L Human Capital Strategic Plan (HCSP) 120 days after the QDR report. In June 2006, the Department published both the DoD Civilian HCSP and the AT&L HCSP as planned. Because workforce is a top priority, the AT&L Workforce Senior Steering Board (SSB) was formed to set overarching policies and requirements for the AT&L Workforce, Education, Training, and Career Development Program in support of human capital initiatives. The SSB includes CAEs, senior acquisition functional leaders, and DUSD (Civilian Personnel Policy). This governance structure provides a strategic focus that facilitates alignment with the Components to integrate workforce initiatives. Since May 2006, four SSB meetings have been held, which have generated significant momentum enabling new initiatives and the exchange of best practices.

This report is the most comprehensive review of the DoD acquisition workforce since the congressional studies leading to passage of DAWIA in 1991. The review confirmed some existing gaps and raised issues relative to current and future capabilities.

Certification level is a workforce quality indicator. Currently, 66 percent of the AT&L civilian workforce is certified, and 50 percent meet or exceed the required position certification level. However, for critical acquisition positions, the certification rate increases to 75 percent, with 65 percent meeting or exceeding the position-level requirement. Certification rates are being reviewed and analyzed under the DoD AT&L Data Green initiative. The Department's greatest workforce concern is the ability to act now to mitigate the impact of the pending departure of the Baby Boomer workforce. Seventy-six percent of the current acquisition workforce is part of the Baby Boomer and older generations. While hiring is favorable today, especially with regard to replenishing the engineering workforce, concerns exist about the availability of sufficient technical talent within the science and engineering disciplines to meet future workforce needs.

These concerns re-emphasize the need for continued robust recruiting, development, and retention programs**.** To support the national security strategy objectives, DoD must deploy collaborative human capital strategies across the Services and Agencies that are aligned with mission priorities and human capital challenges.

High-quality data is the critical enabler for analyzing workforce trends and projections, determining skill gaps, and devising succession planning strategies—all essential for effective workforce planning. These activities provide managers with the information needed to assign resources, assess workforce qualifications, plan future work, and focus energies to produce high performance.

To ensure the right workforce capability, now and in the future, DoD should hire, develop, and retain people with the right skills. Future skill set requirements may differ from today's needs. In partnership with the Office of the Deputy Under Secretary of Defense for Civilian Personnel Policy, or ODUSD(CPP), on human

capital strategic planning, AT&L is providing leadership and guidance to ensure collaborative workforce strategies. Those strategies include using an improved, scientific-based competency modeling and skills assessment process to analyze, understand, and bridge gaps in current and future workforce capabilities.

From a DoD strategic perspective, effective National Security Personnel System (NSPS) implementation and successful attainment of QDR-recommended outcomes will enhance DoD's ability to improve and ensure needed workforce capability. NSPS provides DoD with expanded flexibilities for assigning and reassigning employees in response to mission changes and priorities. Managers are better able to compete for the best talent using new hiring mechanisms and pay-setting flexibilities.

DoD Total Force Construct

The Total Force is defined as active and reserve military members, civilian employees, and support contractors.[4] Both the 2006 QDR and DoD Civilian HCSP call for managing from a Total Force perspective. The Department and Military Services must carefully distribute skills among the four elements of the Total Force (Active Component, Reserve Component, civilians and support contractors[5]) to optimize their contributions across the range of military operations, from peace to war.[6] The Strategic Plan for the Office of the Under Secretary for Personnel and Readiness focuses on developing the right mix of people and skills through seamless integration to capitalize on the strengths of those individuals comprising the Total Force.[7] Aligning authorities, policies, and practices will produce the best qualified Total Force. The support contractor workforce fulfills acquisition organization mission capabilities, mitigating shortfalls in the government workforce.

Support contractors are not counted nor considered part of the DoD acquisition workforce. DAWIA does not require support contractor personnel to meet training and certification requirements. DoD acquisition organizations are responsible for making effective use of their support contractors. This requirement entails understanding how contractor personnel are employed to support the acquisition workforce, a situation that is not unique to DoD. For example, the National Aeronautics and Space Administration (NASA) recently examined its total force structure and found few links between acquisition planning and workforce planning. It is now placing emphasis on the importance of integrated workforce planning to

[4] *Quadrennial Defense Review Report*, February 6, 2006, and *DoD Civilian Human Capital Strategic Plan 2006–2010.*

[5] Support contractors are contractors hired to provide augmentation, additional capacity, and address critical skill imbalances in the acquisition workforce. See USD(AT&L) Memorandum, "Review of Acquisition Support Contractor Workforce Data," March 29, 2007.

[6] *Quadrennial Defense Review Report*, February 6, 2006, p. 75.

[7] *Office of the Under Secretary of Defense for Personnel and Readiness Strategic Plan 2006–2011*, Goal 7: "Integrate the active and reserve military, civilian employees, and support contractors into a diverse, cohesive total force and a rapidly tailorable joint force structure."

include both support contractors and their organic workforce.[8] This review concluded that NASA's current integrated planning approach is a best practice. The Department recently requested acquisition organizations to provide current information on support contractors, primarily to analyze and further improve strategic workforce planning.[9]

Additionally, FY 2006 NDAA, Section 343, "Performance of Certain Work by Federal Government Employees," requires the Secretary of Defense to prescribe guidelines for ensuring consideration is given to using government employees for work that is currently performed or would otherwise be performed under DoD contracts. These guidelines should be applied to decisions regarding use of support contractors.

FORCE PLANNING

Force planning begins with the President's *National Security Strategy*, supplemented by the Chairman of the Joint Chiefs of Staff's *National Military Strategy* and the Secretary of Defense's *Defense Strategy*. The broad strategic goals and initiatives in these documents are translated into the military capabilities needed to accomplish desired strategic outcomes. The Services lead their force planning processes. While they follow different approaches in determining their total force structure, the Services underlying processes are generally the same, as outlined below:

- **Identify required combat forces needed to achieve national military strategy objectives.** Through a variety of techniques that often include extensive modeling and simulation of various wartime scenarios, the Services identify the size and makeup of the required combat force (such as the number of divisions, wings, and carrier battle groups).

- **Identify required support forces needed to sustain the combat forces.** Service force developers then estimate the number and type of support capabilities and units needed to maintain and sustain the identified combat units. These include combat support and combat service support forces. The acquisition workforce is part of the support portion of the total force.

- **Calculate required end strength.** The Services next calculate the number of individual military personnel needed to achieve this objective force and specify the quantity at grade and skill level and by component (active or reserve forces).

[8] National Academy of Public Administration, *Balancing a Multisector Workforce to Achieve a Health Organization,"* February 2007, p. 137.

[9] USD(AT&L) Memorandum, "Review of Acquisition Support Contractor Workforce Data," March 29, 2007.

- **Determine appropriate manpower mix, including contractor support.** The Services determine the appropriate manpower mix in accordance with DoD Instruction 1100.22, considering laws, policies, regulations, inherently governmental functions, and fiscal constraints.[10]

DEFINING THE ACQUISITION WORKFORCE

Over the past 20 years, the acquisition workforce has been defined and counted several different ways.[11] The challenge is to ensure that the workforce data are accurate, complete, and used in a consistent manner. Within DoD, three commonly used methods for counting the workforce have evolved: acquisition organization count, Packard count, and DAWIA count. These methods are described in the following subsections.

Acquisition Organization Count

Acquisition organization count is most often used in the context of acquisition workforce reductions. It focuses on DoD organizations having acquisition as a primary mission (e.g., Army Aviation and Missile Command, Naval Air Systems Command, and Air Force's Aeronautical Systems Center). This count captures all employees assigned to acquisition organizations regardless of their occupation. For example, the count may include doctors, police, personnel specialists and others who are not directly involved in acquisition-related activity. Accordingly, year-to-year variations in this count may not reflect changes in the mission capability of the organizations as represented by its acquisition professionals. Nor does an acquisition organization count include individuals who, in fact, are performing acquisition functions, but are assigned outside of acquisition organizations, such as contracting officers assigned to base, camp, post, and installation contracting offices.

Packard Count

First used by the Packard Commission in the mid 1980s, the Packard count focuses on people that work in acquisition organizations. The Refined Packard methodology of the 1990s built upon this approach.

[10] DoD Instruction 1100.22, *Guidance for Determining Workforce Mix*, September 7, 2006, implements the policies set forth in DoD Directive 1100.4, *Guidance for Manpower Management*, February 12, 2005, pp. 6-8.

[11] Congressional Research Service Report, *Defense Acquisition Workforce: Issues for Congress*, March 11, 1999, p. CRS-4. "There have been at least seven attempts in recent years by Congress and DoD to define what constitutes the defense acquisition workforce."

> On December 19, 1997, in response to the requirement contained in Section 912(b) of the National Defense Authorization Act for FY98, the Secretary of Defense informed Congress that beginning October 1, 1998, members of the acquisition workforce would be uniformly identified. The identification will be based on an updated version of an approach developed by the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission).[12]

This refined methodology classifies the workforce in three categories according to their occupation and the organization in which they work. Personnel in Category I occupations, such as contracting, were counted as part of the acquisition workforce regardless of DoD organization. Personnel in Category II occupations, such as engineers and financial management were counted only when serving in designated acquisition and technology organizations as discussed above. These people are not counted when serving outside acquisition organizations. For example, an engineer (GS-0801) at Naval Air Systems Command or a financial manager (GS-0505) at the Air Force Aeronautical Systems Center would be deemed to be in the acquisition workforce, while an engineer or financial manager assigned to an operational command, such as JFCOM, would not. All military officers assigned to designated acquisition organizations were counted as part of the workforce. Category III was added to provide components flexibility to improve the accuracy of the count. Other civilians, officers, and enlisted members performing acquisition functions, but not categorized under I or II, could be counted as part of the acquisition workforce under Category III.[13]

DAWIA Count

The DAWIA count was initiated in the early 1990s.[14] This approach recognizes membership based solely on the incumbent's position responsibilities being acquisition in nature.[15] For example, if position responsibilities are predominantly program management, then the position would be "coded" DAWIA—Program Management, and the incumbent would be counted in the acquisition workforce. This definition of the workforce is the most direct way of identifying the professional AT&L workforce and is in use today. Thirteen acquisition career fields essentially define the AT&L workforce:

1. Auditing

2. Business, Cost Estimating, and Financial Management

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[12] USD(AT&L) Memorandum, "Refined Packard Key Acquisition and Technology Workforce Identification Policy for the Fiscal Year 1999 (FY99)."

[13] Jefferson Solutions, *Identification of the Department of Defense Key Acquisition and Technology Workforce*, April 1999.

[14] A House Armed Services Committee study, "Quality and Professionalism of the Acquisition Workforce," May 8, 1990, lead to the creation of DAWIA.

[15] DAWIA requires that certain occupation series be counted as acquisition.

3. Contracting
4. Facilities Engineering
5. Industrial and Contract Property Management
6. Information Technology
7. Life Cycle Logistics
8. Production, Quality, and Manufacturing
9. Program Management
10. Purchasing
11. Systems Planning, Research Development, and Engineering—Science and Technology Manager
12. Systems Planning, Research Development, and Engineering—System Engineering
13. Test and Evaluation.

Statutory requirements call for the workforce to be identified by first designating acquisition positions by category and procedures to be implemented uniformly throughout the Department.[16] By the late 1990s, compliance with these requirements was problematic. Accordingly, the Refined Packard methodology was developed and implemented for several years as guidance to the Components in how to identify and count the workforce. As a consequence the "DAWIA" numbers were well below those determined following the Refined Packard methodology.

By 2004, through a process called at the time "assimilation,"[17] the two numbers converged, which laid the groundwork for using the more-direct DAWIA process once again. Subsequently, the Department developed better Position Category Descriptions of acquisition-related functional responsibilities to ensure stability in how the workforce is identified and counted. As a result, the Department is well positioned now not just to account for those identified in the professional (or DAWIA) DoD-wide AT&L workforce, but also to ensure that scarce resources for their training and career development are applied to the right employees.

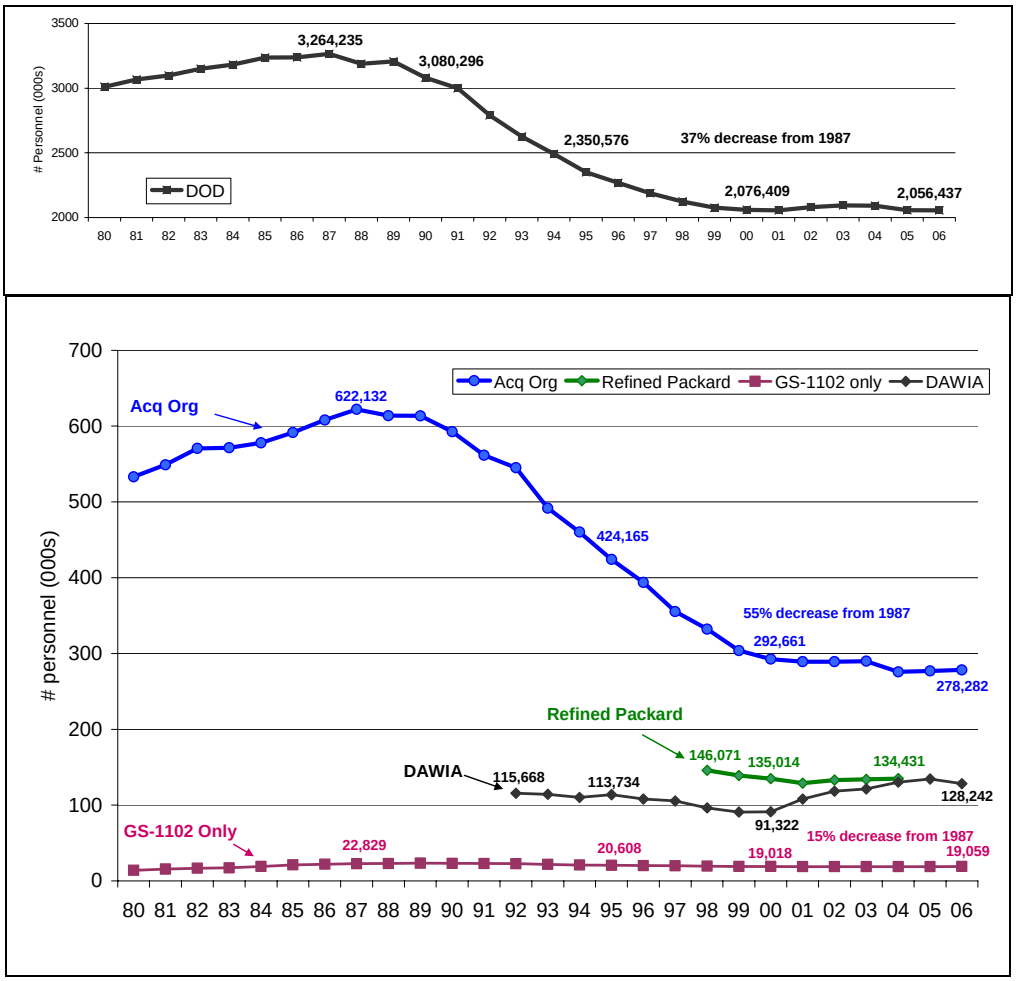
[16] Title 10, United States Code, Sections 1721 and 1701.

[17] During the initial implementation of DAWIA, positions within and between Components were inconsistently coded, which resulted in policies to increase the consistency of defining the acquisition workforce. The process of striving to properly enroll these individuals into the workforce was referred to as "assimilation."

Workforce Trends

Figure 3-1 illustrates workforce trend data of the various workforce definitions. In general, acquisition organizations decreased in parallel with overall DoD workforce reductions after the Cold War; then however, the drawdown in acquisition organizations exceeded that of DoD overall.

Figure 3-1. Workforce Trends



Source: DoD: DMDC Web site: http://siadapp.dior.whs.mil/index.html. Acq Org (includes depot maintenance personnel): DMDC civilian and military master personnel files. For FY 2005 and 2006, the Air Force provided their data directly to DAU. Refined Packard: 85-95 DPAP; 99-04 DoD IG D-2006-073. DAWIA: DMDC and AT&L Workforce Datamart; 1102s: DMDC.

The DoD workforce (active military and civilian), shown by the top black line in Figure 3-1, reached a high point of 3,264,235 in 1987.[18] The acquisition organization workforce (blue trend line) reached a high point in the same year at 622,132

[18] DMDC Web site: http://siadapp.dior.whs.mil/index.html.

(military and civilian).[19] The Refined Packard count, which was initiated in 1998, is represented by the green trend line.[20] The acquisition workforce, whether using the Refined Packard or DAWIA count (black line), has remained relatively stable over time.

While the acquisition organization count decreased substantially between 1987 and 2006 (55 percent), the DAWIA acquisition workforce appears to have remained relatively stable since then. Similarly, this situation also extended to the functional communities in which, for example, the contracting community (represented by the 1102 Contract Specialist occupation) remained relatively stable (as shown by the red line).

Workforce Planning

The primary objective of workforce planning is to have the right people at the right place at the right time. Measuring DoD acquisition workloads is an extremely complex task. Seemingly straightforward measures like the number of programs or contract actions are not necessarily reflective of the actual workload. For example, a major acquisition program requires considerably more work in terms of systems development, program management, and contract administration than a large number of smaller programs. In other cases, the opposite may be true. In spite of complex workloads, varying budgets, and changing mission priorities, the Department conducts both budgeting and planning efforts that affect the future acquisition workforce.

Workforce planning is primarily the responsibility of the military departments and defense agencies. OSD provides DoD-wide guidance for workforce planning as reflected in the following two examples:

- **Civilian Human Capital Strategic Plan (CHCSP).** "The CHCSP guides and informs the civilian human resources (HR) policies, programs, and initiatives for the Combatant Commands, the Military Departments, Combat Support Agencies, and Field Support Activities of the United States."[21] This document aligns HR actions with the goals and objectives of the 2006 QDR Report, Human Capital Strategy (HCS), and OUSD Personnel and Readiness (P&R) Strategic Plan for FY 2006–2011.

[19] The source data for calculating the size of acquisition organizations is DMDC civilian and military master personnel files. From those files, individuals assigned to a designated set of organizations are extracted and counted. These organizations have acquisition as their primary mission focus. In the military departments, these include acquisition-related major commands, laboratories, and PEOs. Additionally, DLA, DCMA, MDA, Special Operations Command acquisition center, and the OUSD(AT&L) are also designated as acquisition organizations and included. (For FY 2005 and 2006, the Air Force provided the quantity of its portion.)

[20] Various sources: 85-95 DPAP; 99-04 DoD IG D-2006-073. The last Jefferson Solutions report was published in 2004.

[21] *Civilian Human Capital Strategic Plan 2006–2010*, p. 3.

- **AT&L Human Capital Strategic Plan.** Workforce shaping and its outcome—workforce capability—is a function of its size, but also of competence, training, processes, tools, policy, and structure. The AT&L HCSP provides a framework for integrating these factors. This plan starts a dynamic process to develop an integrated workforce strategy that will enable DoD to build a highly effective, performance-based culture that can attract, retain, motivate, and reward a high-performing, top-quality workforce. Its objective is to put in place an actionable plan that will influence decisions and behavior as the Components right-shape the AT&L workforce.

In addition to these OSD-level documents, some of the Components have published their own human capital planning documents, such as the *Department of Navy Human Capital Strategy*, June 2004.

Workforce planning is, by necessity, budget constrained. Budget Exhibit PB23, Acquisition, Technology and Logistics (AT&L) Workforce Transformation Program,[22] provides the necessary link between the AT&L HCSP and the programming and budgeting system. It also provides information on how the Components propose funding for their AT&L workforce initiatives.

The most recent Budget Exhibit PB23 covers FY2006–FY2013. It contains the following projections:

- Army: A 96 percent civilian and 4 percent military mix is maintained; no significant changes in civilian full-time equivalents (FTEs) or military end-strength.

- Navy (excluding the Marine Corps): An 89 percent civilian and 11 percent military mix is maintained; a 2.7 percent reduction in civilian FTEs and a 7.1 percent reduction in military end-strength.

- Air Force: A 63 percent civilian and 37 percent military mix is maintained; a 1.8 percent reduction in civilian FTEs and a 4.7 percent reduction in military end-strength.

Support Contractors

Support contractors are an important element of AT&L's Total Force.[23] They give DoD improved agility to react quickly to changing requirements as the situation dictates. In 2006, the DoD Inspector General (IG) conducted a review that included using focus groups of acquisition workforce personnel. The IG reported that focus group participants generally believe that

[22] PB23, "Acquisition, Technology and Logistics (AT&L) Workforce Transformation Program, FY06–FY13;" Component submissions in support of FY08 budget.

[23] *Quadrennial Defense Review Report*, February 6, 2006, p. 75; *DoD Civilian Human Capital Strategic Plan 2006–2010.*

> …increased use of contracted acquisition support occurred because of increased workload coupled with past reductions of acquisition workforce personnel. Focus group comments also indicated that prioritizing acquisition and contracting job responsibilities led to the identification of severable functions that could be contracted out. Contracted acquisition support personnel were used to meet these priority skill sets. The acquisition workforce shortfalls were prevalent across several acquisition career fields including program management, quality assurance/engineering, and contracting.[24]

The results from this Section 814 review survey reinforced this message. Only 8 of the 63 organizations that responded to the survey noted a shortage or gap in their workforce. Interviews with key leaders confirmed that shortfalls were made up through contracting for this support. From a Total Force perspective, Components and their subordinate acquisition organizations are responsible for understanding how, where, and to what extent support contractors should be used. As noted previously, AT&L has requested the military services and acquisition agencies to provide information on support contractors. This data collection process is ongoing.

Whether the marketplace can continue to supply experienced, specialized support contractors to acquisition organizations is not well understood. The available pool of qualified support contractors is somewhat dependent upon having military and civilian acquisition workforce retirees seeking a second career. This entire area merits further analysis and understanding as it relates to and impacts overall AT&L workforce human capital planning.

Data Quality

Current, accurate, and complete workforce data are critical for acquisition leaders to understand workforce capability and readiness. High-quality data enable smart resource and workforce decisions; those data are also needed to assess workforce trends in such areas as size, certification, experience, education, hiring, retention, retirements, and competency gaps.

Data quality is an issue for both DoD and the government.[25] The Government Accountability Office (GAO) has developed a three-level model to assess data quality improvements. Two factors in that model directly relate to this review and the AT&L Data Green initiative: (1) human capital decisions are data-driven and (2) human capital approaches are tailored to meet organizational goals. Based on an internal assessment of the 2006 DAWIA count and analysis, DoD's current efforts

[24] DoD IG, *Human Capital Report on the DoD Acquisition Workforce Count*, April 17, 2006, p. 11.

[25] Acquisition Advisory Panel, *Report of the Acquisition Advisory Panel to the Office of Federal Procurement Policy and the United States Congress* (*Draft)*, December 2006, (p. 5-5) states that, "In order to understand where we stand in the enterprise of counting the federal acquisition workforce, ... there has been significant inconsistency over time." This point was also made by the DoD IG in *Human Capital Report on the DoD Acquisition Workforce Count.*

are rated at Level 2 with significant work required to achieve Level 3.[26] Improved data quality is a key success factor relative to strategic workforce management.

DAWIA required a management information system for the acquisition workforce. DoD policy further requires Components to submit acquisition-unique data. Currently, the handling and access to DoD's workforce data has some shortcomings, resulting in limited utility and diminished confidence in the data.

The AT&L HCSP sets forth Goal 3 to promote improved data quality and the proactive use of data for workforce management and human capital planning.[27] "Workforce strategies should be supported by real-time data and integrated, robust analysis." [28] This support did not exist in the past.

As part of the AT&L human capital initiative, OSD is establishing a comprehensive, recurring, and consistent workforce analysis process to enable tracking, understanding, and workforce shaping strategies for attaining the right knowledge, skills, and capabilities.

The AT&L Data Green initiative, a key enabler for achieving Goal 3, is already improving the reliability, analysis, and transparency of workforce information. The building blocks of that effort include updating and standardizing data requirements; creating a data repository with improved interface, data handling, and analysis capability; and establishing a consistent, recurring process for data-driven workforce analysis. A related, cornerstone effort is the establishment of the AT&L Workforce Datamart, which will enable real-time analysis, improved confidence, and central collection and submission to the Defense Manpower Data Center (DMDC) (see Figure 3-2).[29] Started in 2007, periodic validations and data reconciliations are being conducted to improve data quality. These efforts will facilitate improved decisions on recruiting, hiring, and retention—an integral part of strategic workforce management.

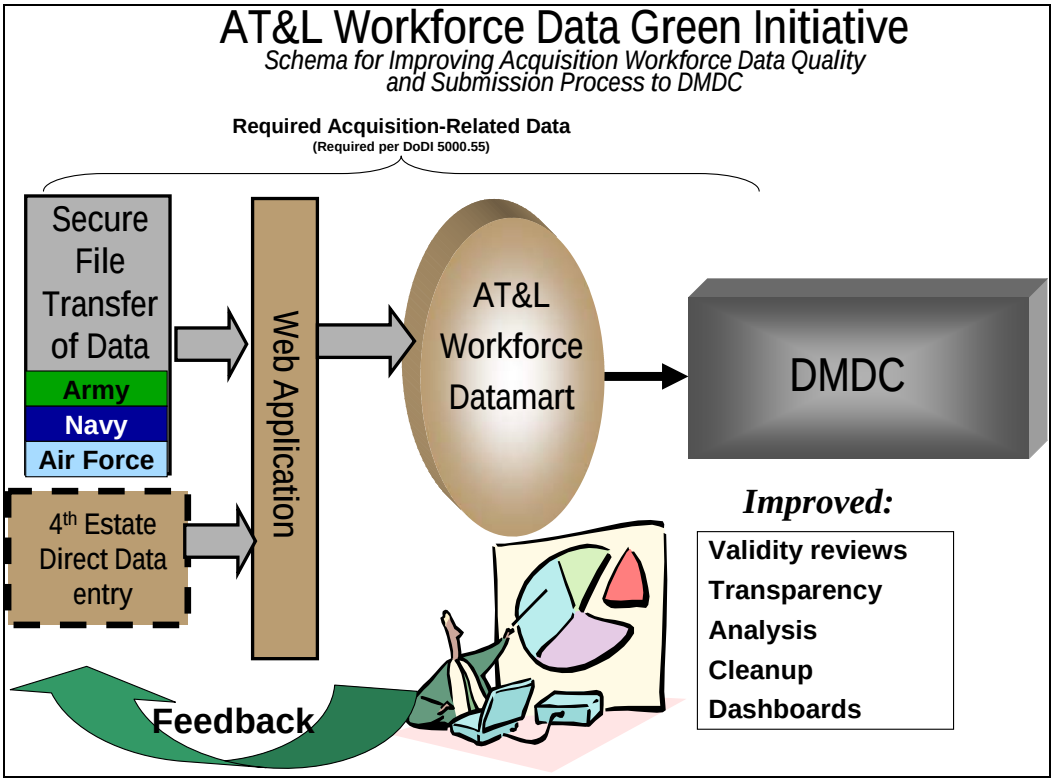
[26] As summarized by GAO, *A Model of Strategic Human Capital Management*, Report 02-373SP, p. 9: Level 2—The agency recognizes that people are a critical asset that must be managed strategically; new human capital policies, programs, and practices are being designed and implemented to support mission accomplishment; Level 3—The Agency's human capital approaches contribute to improved agency performance; human capital considerations are fully integrated into strategic planning and day-to-day operations; the agency is continuously seeking ways to further improve its "people management" to achieve results.

[27] *AT&L Human Capital Strategic Plan*, June 2006: Goal 3: Establish a Comprehensive Workforce Analysis and Decision Making Capability.

[28] *AT&L Human Capital Strategic Plan*, June 2006.

[29] The AT&L Workforce Datamart is a tool that enables improved management of acquisition data quality, workforce analysis, and reporting of acquisition workforce-related data.

Figure 3-2. AT&L Data Green Initiative



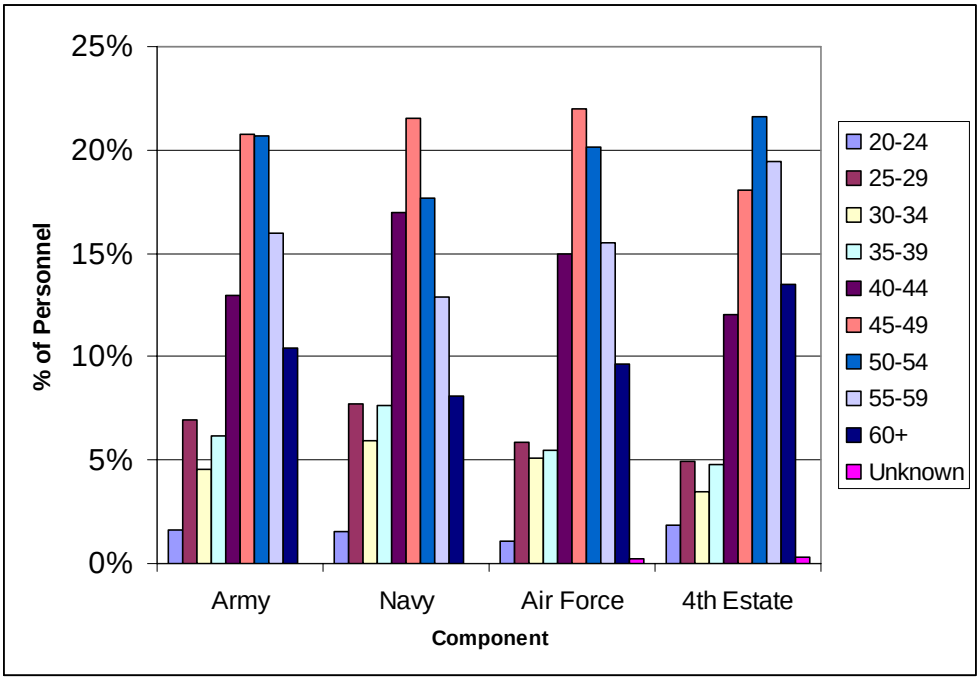
WORKFORCE DEMOGRAPHICS AND QUALITY

Age

Within the AT&L civilian workforce, members of the 4th Estate are, on average, older than those in the military departments (Figure 3-3).[30] Thirty-two percent are 55 years or older as compared to 26 percent in the military departments. The largest distribution of the AT&L workforce in the military departments is in the 45–49 year range. But in the 4th Estate it is the 50–54 year group.

[30] The term 4th Estate refers to DoD organizations other than the military departments, e.g., defense agencies, field activities, and others (like DAU). The civilian acquisition workforce members of these organizations are considered to be in the 4th Estate. The military members are included in the workforce count of their respective military department.

Figure 3-3. Civilian Age Distribution



Source: AT&L Workforce Datamart, FY 2006. Statistics are for civilians only.

The younger age groups appear proportionally low, which is exacerbated by the fact that the average employee hired in the past 5 years had an average age of 36.5. This may create succession planning issues in the future as the Baby Boomers begin departing the workforce.

Education

Education level is one measure of workforce quality (Figure 3-4). Today's AT&L workforce is highly educated with 74 percent of the civilians having bachelors or advanced degrees. Twenty-three percent of the total have an advanced degree,[31] which exceeds the level for the DoD white-collar workforce, where the median is "some college" and 43 percent have bachelors or advanced degrees (15 percent have advanced degrees).[32] By comparison, nearly one-half of the full-time permanent federal civilian workforce hold college degrees with 17 percent having advanced degrees.[33] Mr. John Palguta, Vice President of the Partnership for Public Service, predicts that the "… number of federal employees with college degrees will grow to 60 percent in the next decade…"[34] This level is already exceeded by the AT&L workforce. The percentage of AT&L employees with degrees will continue to increase as a result of new hires having bachelors or advanced degrees

[31] AT&L Workforce Datamart, FY 2006. Statistics are for civilians only.

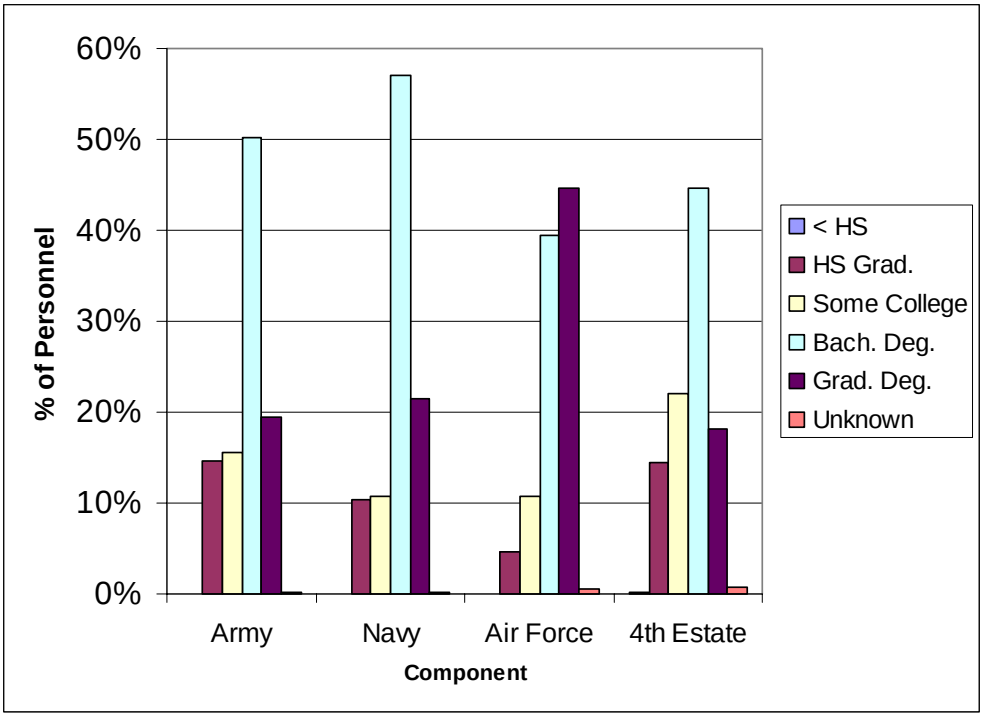
[32] DMDC Civilian master files for September 2006. Statistic is for DoD civilian, white collar employees only.

[33] Congressional Budget Office, "Characteristics and Pay of Federal Civilian Employees," March 2007, p. 3.

[34] *Federal Human Resources Week*, Vol. 14, Issue 5, April 30, 2007, p. 71.

now exceeds 80 percent.[35] The expectation is for this percentage to continue to increase as it has over the past 15 years. In 1995, 67 percent had college degrees.

Figure 3-4. Civilian Education Level Distribution



Source: AT&L Workforce Datamart, FY 2006. Statistics are for civilians only.

Competition from the private sector is expected to increase as DoD acquisition organizations are challenged by the need for technically educated graduates who can obtain security clearances.

There is a prevalence of foreign students earning advanced degrees in technical and engineering disciplines. Many are returning to their country of origin, and many others have problems with security clearances required for national security positions. There is also a projected shortfall within the millennium generation due to low high school graduation rates.[36] DoD, National Defense Industrial Association, and other associations should continue to evolve ongoing partnering discussions about joint initiatives to cooperatively work to address high school graduation rates. This national issue has huge implications for future U.S. national security.

Many national and DoD reports have provided warnings there will not be sufficient U.S. citizens with bachelors and advanced degrees in science and

[35] AT&L Workforce Datamart, FY 2006. Statistic is civilians only.

[36] National Center for Higher Education Management Systems, 2002. Current trends suggest that since the late 1990s approximately 70 percent of students who enter the ninth grade will graduate from high school.

engineering (S&E) disciplines to meet the 21st century needs of the defense and intelligence communities.[37] Nearly 14 percent of DoD civilians are in S&E occupations, and 50 percent of DoD engineers belong to the AT&L workforce.[38] According to the National Science Foundation, there will be a 26 percent increase in the number of S&E jobs between 2002 and 2012.[39] An increased global demand for engineering talent is a related problem for DoD technical career fields. However, engineering degrees represented only 4 percent of all degrees awarded in the 2001–2002 academic year.[40] This will challenge DoD in maintaining its current technical excellence and technical edge.

Certification Levels

Certification level is another workforce quality indicator. DAWIA certification, a primary quality indicator, is attained by achieving the requisite levels of experience, education, and training. Table 3-1 displays the certification levels for the AT&L workforce. Currently, 66 percent of the AT&L civilian workforce is certified and 50 percent (shown in green) of the civilian workforce meets or exceeds the position-level requirement. This information is reflected in the certification levels achieved by individuals with the level required by their positions. For 39 percent (shown in red), either a position lacks a certification-level requirement or the individual has no documented achieved level. This portion of the workforce is being reviewed under the AT&L Data Green initiative.[41] When better data become available, these certification levels may prove to be higher. Additionally, some functional communities, such as financial management and cost estimating, have gone through significant reductions and are experiencing low certification levels.

[37] National Defense Education Act of 2006, "A U.S. Department of Defense White Paper," March 10, 2006, p. 2.

[38] DoD Civilian Demographic Report for 2006 and AT&L Workforce Datamart.

[39] National Science Foundation, "National Science Board Science and Engineering Indicators, 2006," Volume 1, February 23, 2006, p. 3-8.

[40] Applied Information Management Institute, *Academic Disciplines and Employment Trends*, January 2006, p. 17.

[41] AT&L Workforce Datamart, FY 2006. Statistic includes only civilians.

Table 3-1. Certification Level Distribution for the AT&L Civilian Workforce

	Level required by position			Total	113,032	100%
				Unknown/ Not matched	43,911	39%
Level achieved by individual	Level I	Level II	Level III	Total	12,553	11%
Level III	131	6,907	30,625	37,663	33%	
Level II	462	17,343	4,548	22,353	20%	
Level I	1,100	6,160	1,845	9,105	8%	
Meet/exceeds	1,693	24,250	30,625	56,568	50%	50%
Achv/not matched	516	2,847	1,096	4,459	4%	

Source: AT&L Workforce Datamart, FY 2006 (civilians only).

The USD(AT&L) established a dual track initiative to improve certification levels. One initiative called for minimum certification rates for all functional communities. The second established milestone dates for validating certification information on individuals assigned to Key Leadership Positions (KLPs) in ACAT I and ACAT II programs.[42] The KLP initiative implementation should be completed in 2007. These initiatives also support the reporting requirements of FY07 NDAA, Section 820, "Government Performance of Critical Acquisition Functions."[43] Data quality and analysis has been a driving focus of the AT&L HCSP. Significant progress is being made in this area.

As Level II and Level III certified employees depart the workplace, DoD must ensure entry- and mid-level workforce members are achieving certifications to fulfill position requirements vacated by the Baby Boomer workforce. Between 2002 and 2006, more than 7,400 new certifications were awarded at Level III in the SPRDE, program management, and contracting career fields.

Improved demand management will help ensure training resources are optimized to maintain a high-quality workforce. The evolving trend of workforce members working longer; solid numbers in the 15 to 25-year groups; current successful hiring; planned improvements to the certification framework; and the ongoing competency initiative are positioning DoD to mitigate the impact of the potential certification shortfalls related to the departing "seasoned talent."

[42] Requirements established in an AT&L Workforce SSB Meeting, May 1, 2007.

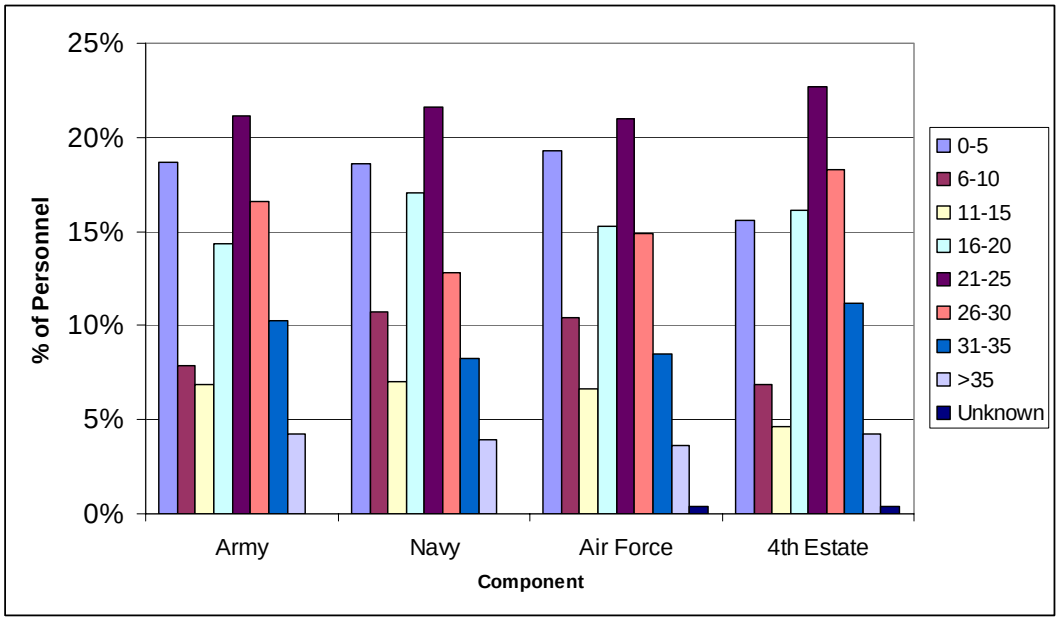
[43] Section 820 requires that the positions of PM, deputy PM, chief engineer, systems engineer, and cost estimator in ACAT I and ACAT IAM programs be performed by a "qualified member of the Armed Forces or full-time employee of the DoD." Integrated workforce planning must consider this requirement. The AT&L KLPs initiative adds the positions of program contracting officer and PEOs.

Experience

Using years of service as a key indicator of experience, the AT&L workforce is the most experienced in the Department. Fifty percent of the AT&L civilian workforce have over 20 years of experience compared with approximately 40 percent of the DoD General Schedule workforce.[44] The current workforce acquired most of the major systems that led to the end of the Cold War, extended the life of many aging systems, and supported Desert Storm and numerous contingency operations around the world. These mission demands have generated a very experienced mid-career and senior acquisition workforce.

For all Components, more than 20 percent of the AT&L workforce have 21–25 years of service. Less than 7 percent have 11–15 years of service, a reflection of hiring freezes in the 1990s (see Figure 3-5). Over 18 percent have 0–5 years of service, which is consistent with increased hiring during the past 5 years.

Figure 3-5. Experience for AT&L Civilians



Source: AT&L Workforce Datamart, FY 2006 (civilians only).

Generations

The AT&L workforce faces major challenges regarding new skill sets and the projected loss of experience and knowledge expected from retirements of the Baby Boomers. This is a national issue that will impact every employer in America. In 2005, half of the national workforce was in the Baby Boomer and older generations. Table 3-2 shows that this situation is even more pronounced in DoD

[44] AT&L data from AT&L Workforce Datamart, FY 2006. Statistic is for civilians only. DoD data from FEDSCOPE, September 2006, www.fedscope.opm.gov.

and the AT&L civilian workforces where these generation comprise 71 percent and 76 percent, respectively.[45] As this generation retires, competition between government and industry for new hires is expected to intensify.

Table 3-2. AT&L Workforce by Generations

	National [a] (2005)		DoD [b] (2006)		Civilian AT&L Workforce [c] (2006)	
Generation	**Workforce (millions)**	**% Workforce**	**Workforce**	**% Workforce**	**Workforce**	**% Workforce**
Silent Generation (born before 1946)	11.5	7.5%	45,625	6.7%	8,322	7.4%
Baby Boomers (1946-64)	61.5	42.0%	438,971	64.5%	77,779	68.7%
Generation X (1965-76)	43.5	29.5%	132,948	19.5%	17,581	15.5%
Generation Y (1977-89)	31.5	21.0%	62,676	9.2%	9,394	8.3%
Millennium (1990- present)	51.0	0%	153	0%	0	0%
Total		100.0%		100.0%		100.0%

Sources:

[a] Amour, Stephanie "Generation Y They've Arrived at Work with a New Attitude" USA Today, Nov 7, 2005, 18-28.

[b] OSD P&R Report: DoD Civilian Workforce Statistics/DoD Demographics/May 2006 Edition.

[c] DMDC FY05 AT&L Workforce Count/AT&L workforce data contains 389 files with null for age.

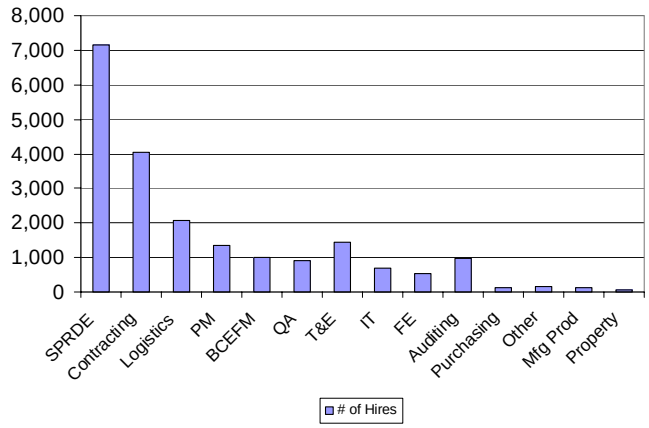
Hiring

Today, DoD is having success in hiring to meet its needs. Figure 3-6 shows the level of recent hiring. SPRDE, program management, and contracting workforce career fields represent 59 percent of the civilian AT&L workforce. Based on the workforce years-of-service information from 2002 to 2006, DoD hired approximately 7,100 in SPRDE, 1,300 in program management, and 4,000 in contracting career fields; these hires represent 22 percent, 16 percent, and 17 percent of the respective functional civilian workforce populations.[46]

[45] DoD information from DMDC Civilian Master files for September 2006; AT&L information from the AT&L Workforce Datamart, FY 2006.

[46] AT&L Workforce Datamart, FY 2006. Statistics for the civilian workforce; the two SPRDE career fields Science and Technology Managers and Systems Engineering were combined.

Figure 3-6. AT&L Civilian Hires from 2002 through 2006



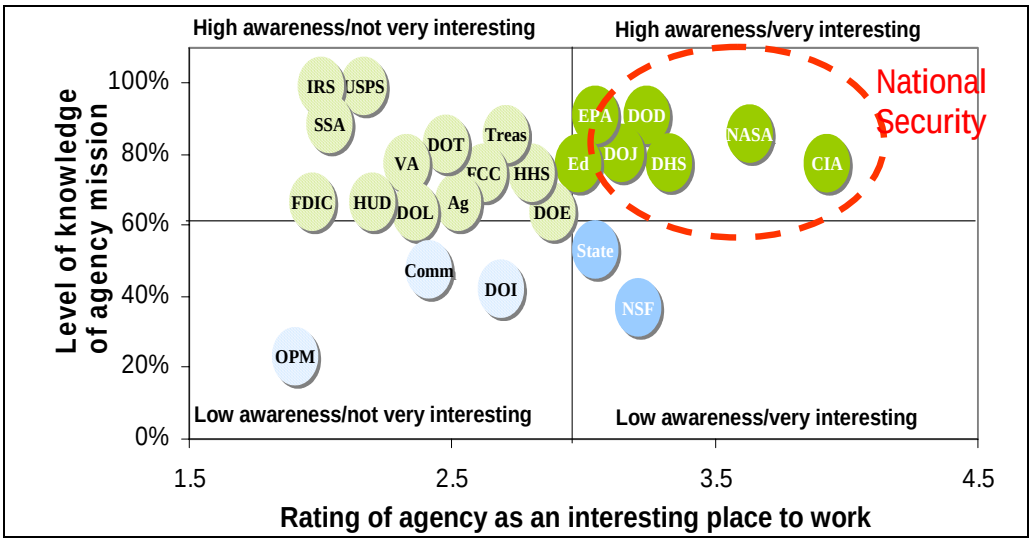
DAWIA Career Field	# of Hires	% of All Hires	% of Career Field
SPRDE	7140	35%	22%
Contracting	4045	20%	17%
Logistics	2083	10%	18%
PM	1338	6%	16%
BCEFM	1007	5%	14%
QA	922	4%	13%
T&E	1455	7%	26%
IT	701	3%	16%
FE	542	3%	14%
Auditing	980	5%	28%
Purchasing	131	1%	8%
Other	157	1%	11%
Mfg Prod	116	1%	9%
Total	20,680	100%	18%

Note: The two SPRDE career fields (Science and Technology Managers, and Systems Engineering) were combined.

Source: AT&L Workforce Datamart, FY 2006 (civilians only).

Figure 3-7 shows the results from a recent Gallup poll that indicated DoD has high name recognition with potential employees.[47] Additionally, the Gallup study showed that the national security arena was highly rated as an interesting place to work.

Figure 3-7. Awareness and Interest in Key Federal Agencies



Source: Council for Excellence in Government and the Gallup Organization, "Within Reach … But Out of Synch," December 5, 2006.

Today, DoD is successfully competing with the private sector in spite of lower salaries. However, federal agencies, such as DoD, offer defined retirement benefits, competitive health care plans, and the opportunity to perform interesting work serving the nation. Despite current success, the Department remains

[47] Council for Excellence in Government and the Gallup Organization, December 5, 2006.

concerned about future hiring due to expected marketplace competition driven primarily by a shrinking talent pool and new demands created by a growing economy.

Retirement

The Baby Boomer and older generations make up 76 percent of the current civilian acquisition workforce.[48] The Department's greatest workforce challenge is the looming brain drain associated with the expected departure of those workers. This reflects both a national and federal-wide demographic challenge. DoD must vigilantly mitigate this risk through effective recruiting, development, and retention of its acquisition workforce.

Preliminary RAND analysis indicates that the AT&L civilian workforce employees retire at a slower rate than DoD overall. Eighty percent of AT&L workforce members do not retire within the first year of being eligible; only 20 percent actually retired within 1 year of becoming eligible. The overall annual retirement rate is approximately 3.5 percent of the AT&L workforce.[49] The AT&L workforce benefits from an "experienced" workforce because members stay longer and from "acquisition-experienced" military members retiring and returning to the workforce as civilians.

An interesting rule of thumb, known as the "Rule of 92," implies the probability of someone retiring increases significantly when the sum of a person's age plus years of service equals 92. A recent analysis of DCMA retirees supported this rule of thumb. During a 12-month period, 484 employees retired. Two Hundred and twenty-two retired at exactly 92, and the average age plus years of service for the group was 92. AT&L is further analyzing this theory and assessing the usefulness of such an indicator in workforce and succession planning. AT&L is also exploring and using other predictive models to forecast retirement probability.

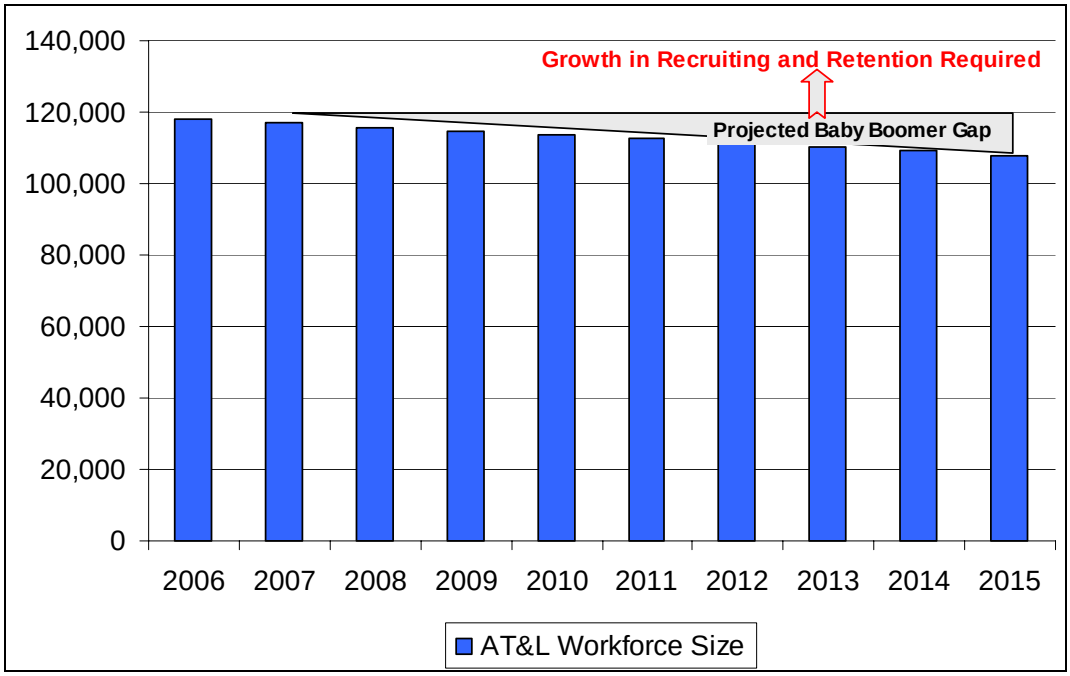
One of these models is being developed by RAND, where analysts are conducting detailed evaluations of hiring, turnover, and retirement in the AT&L workforce. Preliminary results indicate that the current retirement rate will increase as more individuals become retirement eligible. Based on attrition projections and hiring rates, Figure 3-8 shows that annual hiring will need to increase by 1,000 to maintain current workforce levels.[50]

[48] AT&L Workforce Datamart, FY 2006. Statistics is for civilians only.

[49] RAND preliminary workforce inventory analysis for DAU, March 15, 2007.

[50] RAND preliminary workforce inventory analysis for DAU, March 15, 2007.

Figure 3-8. Projected AT&L Civilian Workforce Gap



Source: RAND briefing, "Workforce Projection" to DAU.

Increased retention and hiring should mitigate this gap. To better compete for and retain talent, the Department must provide "employee value propositions (EVPs)." Compensation and benefits flexibilities can be employed to increase retention and recruitment. These flexibilities include proper use of NSPS and developing new or enhancing current benefits, such as the enhanced Thrift Saving Plan (TSP). While compensation and organizational stability attract employees, development opportunities, future career opportunities, manager quality, respect and collegial work environment retain employees.[51] A good EVP program provides a clear, concise, and differentiated message as to why high-talented individuals would want to work for that organization.

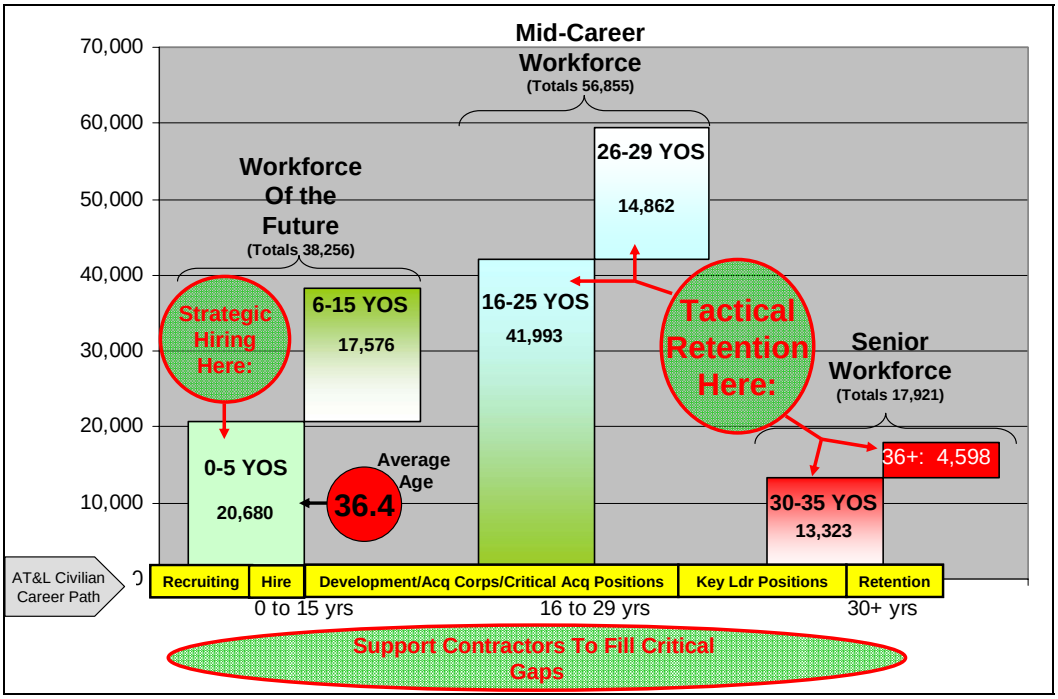
AT&L Workforce Lifecycle Model

The recently deployed AT&L Workforce Lifecycle Model (WLM) is a high-level evaluation tool for assessing the workforce. It captures years of service, which is useful for understanding experience, hiring, bench strength, and retirement trends. The model organizes the workforce into "Future," "Mid-Career," and "Senior" life-cycle groups based on years of service. Each life-cycle group is subdivided into targeted cohort categories for succession planning and migration. WLM can be used at the enterprise, functional, or field organizational level. Figure 3-9 depicts the AT&L enterprise level. The bar on the bottom illustrates the full life-cycle career path from recruitment to retirement. Additionally, the model notion-

[51] Corporate Executive Board, "From Talent Scarcity to Competitive Advantage," January 25, 2007.

ally reflects the use of support contractors to assist in the accomplishment of the acquisition mission. This model is still evolving, and it should have expanded utility as data quality improves.

Figure 3-9. AT&L Workforce Lifecycle Model



Source: AT&L Workforce Datamart, FY 2006 (civilians only).

The focus of the "Future" life-cycle group is primarily on development with specific emphasis on strategic hiring in the 0–5 year cohort group. It should be noted that hiring during the previous 5 years has been robust in terms of filling needs and reflects a bi-modal distribution of hires above and below age 25. The average age of 36.4 years suggests new hires with greater experience, such as prior military, along with younger entry-level personnel. This developmental period is driven by the DAWIA standards that emphasize experience, education, and training.

The Mid-Career life-cycle group should focus on career broadening, depth, and quality of experience and satisfaction of DAWIA standards relative to filling critical acquisition positions (CAPs) and KLPs. Developing the KLP construct has been a senior leadership priority over the past year. The focus is on developing individuals in the Defense acquisition corps to fill senior positions in the AT&L enterprise. The mid-career group is comprised of approximately 57,000 highly educated individuals who are meeting their DAWIA requirements. Many in the mid-career group are on critical acquisition positions and are members of the Defense acquisition corps. The group represents the "bench strength" positioned to replace Senior workforce members approaching retirement. Numerically, the 57,000 members of the Mid-Career group compared to the 18,000

members of the Senior cohort groups with 30-plus years-of-service indicates sufficient capacity to replace seasoned talent departing the Senior group.

The Senior life-cycle group is composed of workforce members who have 30 or more years of service and is divided into two subgroups; those with 30 to 35 years of service and those with 36 or more years of service. Highly experienced Seniors represent approximately 16 percent of the AT&L workforce; they are also the most likely to retire. As noted earlier, the approximate 3.5 percent retirement rate will increase as the Seniors continue to age. While many members of this group have satisfied DAWIA requirements, a significant number were "grandfathered" during DAWIA implementation.[52]

As noted previously, WLM can also be used to depict the health of career fields or field organizations. Preliminary WLMs honing in on the four largest career fields indicate that they are positioned similarly to the enterprise WLM and do not face immediate succession planning issues.

CAPABILITY GAPS

The difference between needed workforce capabilities and current and future workforce capability represent gaps. These gaps must be continually reassessed because they will shape recommendations and planned workforce initiatives.

Six key functional communities represent 80 percent of the AT&L workforce: Engineering (SPRDE); Program Management; Contracting; Life Cycle Logistics; Test and Evaluation; and Business, Cost Estimating, and Financial Management.[53] The following subsections examine these communities in more detail.

SPRDE

The 35,433 members of the SPRDE workforce (military and civilian) represent 28 percent of the AT&L workforce. This career field is staffed at 97 percent of PB23 civilian FTEs and military end strength.[54]

Current data indicates that 60 percent of this workforce meet or exceed the certification requirement of their position and 52 percent are certified at Level III. The SPRDE career field has had 5,500 members certified at Level III for over 10 years. The military composition is 6 percent and approximately 84 percent of all

[52] During DAWIA implementation, DoD was given a grace period where individuals were declared by policy as meeting DAWIA requirements based on their prior experience. They were not required to meet more rigorous DAWIA standards for training and education.

[53] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian personnel; engineering includes both SPRDE career fields.

[54] PB23 is an exhibit used in preparing for the President's Budget showing active duty end strengths and civilian FTEs for the AT&L workforce.

military engineers are in the Air Force.[55] Nearly 42 percent of the SPRDE civilians have more than 20 years of service.[56] From 2002 to 2006, there were 7,140 civilian new hires. Among the civilians in this career field, new hires represent 22 percent.

The Department believes a shortfall exists in systems engineering capability and a revitalization program is under way. Previously, there was no developmental track for systems engineering, and certification standards were set at minimum levels, rather than the requirement to produce fully competent Level III engineers. DoD recently expanded the training and experience requirements necessary to ensure that the workforce is fully qualified. Future systems engineers will have to meet higher acquisition workforce certification qualification standards. Strategic academic partnerships are being formed throughout the United States to improve awareness of DoD system engineering career opportunities and requirements.

The Department recently deployed a KLP initiative and integrated the requirements of FY07 NDAA Section 820. This initiative requires the Chief Engineer and System Engineer positions be identified on all ACAT I and ACAT II programs. Employees selected for these positions will be tracked to ensure they are qualified in terms of certification and tenure requirements.

A recent Gallup poll indicates that potential employees know about DoD and regard it as a good place to work.[57] Hiring has been successful based on current needs, which has allowed the Department to shape the SPRDE workforce and to start addressing current and future needs including systems and software engineering. National workforce demographics and advanced technical degree concerns represent significant future challenges.

Based on the challenge of recruiting from a smaller national workforce and forecasted shortage of technical degrees in U.S. educational institutions, competition from industry should increase. This situation will be exacerbated by a shortage of U.S. citizens with bachelors degrees and advanced degrees in defense-related mathematics, science, and engineering disciplines. A paper written by the former Director, DDR&E, Dr. Ronald M. Sega, highlighted concerns that in the future "…there will not be a sufficient number of U.S. citizens with bachelor's degrees and advanced degrees in defense related science and engineering (S&E) disciplines to meet the 21st century needs of the government defense and intelligence community sectors." Dr. Sega further recommended legislative authority and

[55] AT&L Workforce Datamart, FY06. Statistic includes military and civilian members of both SPRDE career fields.

[56] AT&L Workforce Datamart, FY06. Statistic includes civilian members of both SPRDE career fields.

[57] *"Within Reach … But Out of Synch,"* Council for Excellence in Government and the Gallup Organization, December 5, 2006.

federal funding of programs to increase the number of U.S. citizens in S&E educational programs.[58]

The Department's message will need to be strong and emphasize all the positive elements of applying one's engineering talents to serving the nation as a DoD employee. The Honorable John Young, Director, DDR&E, has deployed several initiatives to address these concerns.[59] He defines success as "ensuring the future of this Nation through an active and aggressive research and engineering portfolio that attracts the best and brightest in America–scientists, engineers, and students." His initiatives include driving greater use of prototyping into DoD acquisition programs; attracting students at elementary, middle, and high school levels to pursue careers in science and engineering; supporting the National Defense Education Program; and ensuring grants and fellowship programs provide maximum benefit to DoD and the taxpayer.

The SPRDE Functional Advisor (Director of Systems and Software Engineering) has deployed two other major training initiatives.[60] One is a comprehensive re-engineering of training for the SPRDE (Systems Engineering) career field, and the other is a major restructuring of the Systems Engineering certification construct. Additionally, a competency assessment initiative is being deployed.

Program Management

The 12,775 members of the program management workforce (military and civilian) represent 10 percent of the AT&L workforce. This career field is staffed at 94 percent of PB23 civilian FTEs and military end strength.

Forty-five percent meet or exceed the certification requirement of their position and 34 percent are certified at Level III. The program management career field has had 1,000 members certified Level III for 10 years.[61] The military composition is 36 percent.[62] Fifty-six percent of the civilians categorized as PMs have over 20 years of service.[63] From 2002 to 2006, there were 1,338 civilian new hires, accounting for 16 percent of the civilians in this career field.

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[58] Dr. Ronald M. Sega, *The Case for a National Defense Education Act of 2006, An Investment in America to Increase the Number of U.S. Citizens Educated and Trained in Mathematics, Science and Engineering Disciplines Critical to National Defense*, (DRAFT), March 10, 2004.

[59] USD(AT&L) Strategic Goals Implementation Plan, Fiscal Year 2007, p. 15.

[60] Functional Advisors (FAs) are senior DoD officials who serve as the subject matter expert for their respective functional area for oversight and management of career development requirements. DoDD 5000.52, part E2.1.9.

[61] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the program management career field.

[62] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the program management career field.

[63] AT&L Workforce Datamart, FY 2006. Statistic includes civilian members of the program management career field.

The Department's extensive use of high-value, complex systems drives the need for a world-class, highly competent program management workforce. PMs balance the many factors that influence cost, schedule, and performance; lead and integrate the efforts of all acquisition functional specialties; and are accountable for delivery and supportability of high quality, affordable, and effective products and services. They are also responsible for developing and fielding weapon systems for the warfighter. Given national demographic issues, DoD trained and experienced PMs are in high demand by both government and industry.

Because of the criticality of the field, this career field has always had a strong, evolving training and career development program. DoD is taking additional steps to ensure a continuing, strong program management capability. Extensive case-based, program management training and performance support is provided by DAU through the DSMC.

PMs and their deputies are receiving increased attention regarding qualifications and tenure. The AT&L KLP initiative applies to this career field also and should result in improved development, succession planning, and qualifications. Section 853 of the FY 2007 NDAA, "Program Manager (PM) Empowerment and Accountability," requires the Department to develop a strategy for enhancing the role of PMs in creating and carrying out defense acquisition programs. This includes, among other things, opportunities for enhanced training and education, mentoring, improved career paths and career opportunities, incentives for recruitment and retention, and enhanced rewards for successful accomplishment of program objectives.[64]

Contracting

The 27,742 members of the contracting career field represent 22 percent of the AT&L workforce. This career field is staffed at 100 percent of PB23 civilian FTEs and military end strength.

Fifty-six percent meet or exceed the certification requirement of their position and 29 percent are certified at Level III. The contracting career field has had 1,300 members certified at Level III for 10 years.[65] The military composition is 14 percent,[66] and approximately 51 percent of all military contracting personnel are in the Air Force. The Air Force contracting community performs a lead DoD enterprise support role for contingency contracting. Nearly 54 percent of the civilian contracting workforce members have over 20 years of service.[67] From 2002 to

[64] Section 853 also requires the Secretary of Defense to revise guidance on PM tenure and accountability.

[65] AT&L Workforce Datamart, FY 2006.

[66] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the contracting career field.

[67] AT&L Workforce Datamart, FY 2006. Statistic includes civilian members of the contracting career field.

2006, there were 4,045 new hires, constituting 17 percent of the civilians in this career field.

Contracting personnel are receiving increased attention regarding qualifications and tenure. The AT&L KLP initiative applies to this career field also and should lead to improved development, succession planning, and qualifications. The Contracting Functional Advisor (Director of Defense Procurement and Acquisition Policy) has deployed and accelerated a very comprehensive competency assessment initiative within the career field. The functional advisor has engaged DoD-wide senior procurement executives and other contracting leaders in human capital planning and competency management for the contracting workforce. A significant area of focus is on addressing the need for improving workforce cost and pricing capability, which is essential to effective acquisition management.

Life Cycle Logistics

The 12,331 members of the life cycle logistics career field (military and civilian) represent 10 percent of the AT&L workforce. This career field is staffed at 98 percent of PB23 civilian FTEs and military end strength.

Forty-two percent meet or exceed the certification requirement of their position and 25 percent are certified at Level III. The military composition is 8 percent.[68] Fifty-six percent of the civilians categorized in this career field have over 20 years of service.[69] From 2002 to 2006, DoD made 2,083 new hires, accounting for 18 percent of the civilians in this career field.

The Life Cycle Logistics Functional Integrated Process Team (FIPT) is extensively updating the current and future competencies required by members of this career field. These new competencies are being integrated into DAU's current and future learning assets, including four logistics courses. These competencies will also form the foundation under which Life Cycle Logistics will be aligned under the AT&L Core Plus framework.[70]

The Life Cycle Logistics Functional Advisor (Deputy Under Secretary of Defense for Logistics and Materiel Readiness) has deployed a comprehensive human capital strategy within the career field, to include engaging the total logistics community in human capital planning and competency management. This initiative is shaping the entire DoD logistics enterprise of approximately 1.1 million military and civilian employees.

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[68] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the life cycle logistics career field.

[69] AT&L Workforce Datamart, FY 2006. Statistic includes civilian members of the life cycle logistics career field.

[70] Assistant USD (Logistics Plans and Studies) Memorandum, "Fiscal Year 2007 Life Cycle Defense Functional Advisor Annual Certification and Fiscal Year 2007 Approved Core Plus Framework Memorandum," May 10, 2007.

Test and Evaluation

The 7,280 members of the T&E workforce (military and civilian) represent 6 percent of the AT&L workforce. This career field is staffed at 97 percent of PB23 civilian FTEs and military end strength.

Fifty-two percent meet or exceed the certification requirement of their position and 37 percent are certified at Level III. The military composition is 24 percent.[71] Thirty-eight percent of the civilians categorized in T&E have over 20 years of service.[72] From 2002 to 2006, there were 1,455 new hires, which represent 26 percent of the civilians in this career field.

Transformation in DoD acquisition has created a requirement for new T&E workforce competencies.[73] In 2005, the OSD Director (Training and Evaluation) convened a working group to identify future competencies necessary for the T&E workforce. These competencies were then compared to DAU course content and gaps were identified at all course levels. A major DAU T&E curriculum reengineering effort is under way and expects to release the new course within the next 18 months.

The T&E Functional Advisor (Director of Systems and Software Engineering) has placed special emphasis on T&E community human capital planning and competency management. These efforts include T&E for Systems of Systems and Families of Systems and a more definitive career path for test range personnel.

Business, Cost Estimating, and Financial Management

The 7,608 members of the business, cost estimating, and financial management (BCEFM) career field (military and civilian) constitute 6 percent of the AT&L workforce. This career field is staffed at 96 percent of PB23 civilian FTEs military end strength.

Thirty-four percent meet or exceed the certification requirement of their position and 24 percent are certified at Level III. The military composition is 4 percent.[74] Fifty-seven percent of the civilian workforce members have over 20 years of

[71] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the T&E career field.

[72] AT&L Workforce Datamart, FY 2006. Statistic includes civilian members of the T&E career field.

[73] Mr. Chris DiPetto and Col. Rich Stuckey, USAF, *ITEA Journal*, "A New Vector for Developmental Test and Evaluation (DT&E)," March/April 2007, pp. 39–45.

[74] AT&L Workforce Datamart, FY 2006. Statistic includes military and civilian members of the business, cost estimating, and financial management career field.

service.[75] From 2002 to 2006, there were 1,007 new hires, accounting for 14 percent of the civilians in this career field.

The lead cost estimator and financial management position for major defense acquisition programs will be designated as a KLP. Qualifications and tenure will be closely monitored and tracked. These individuals will be provided enhanced training and performance support.

Some acquisition-related financial management personnel are performing BCEFM career field functions who are not assigned to acquisition organizations. These employees are not in the acquisition workforce and do not receive training and certification. This situation was identified by the DAPA study as being problematic for sound acquisition.[76] DAPA recommended that the Department establish a consistent definition of the acquisition workforce to include all acquisition-related budget personnel and to reflect an integrated system. It also recommended that DoD establish and direct standard and consistent training, education, certification, and qualification standards for the entire acquisition workforce, including acquisition-related budget personnel. The Section 814 review team concurs with DAPA's findings and recommendations. These actions would not change the individual's responsibility or reporting relationships, but enable those performing acquisition-related functions to receive appropriate acquisition training to enhance their job performance.

The BCEFM Functional Advisor (Director of Acquisition Resources and Analysis) has been a leader in moving to the AT&L Core Plus functional training construct and knowledge sharing throughout the enterprise. The annual Business Management Conference is one of AT&L's best outreach and communications events. Additionally, a competency assessment initiative is being deployed for the BCEFM community, and Earned Value Management (EVM) training has been restructured.

HUMAN CAPITAL AND WORKFORCE DEVELOPMENT

DAU is consistently recognized as the best corporate university in the United States and it delivers the most comprehensive acquisition training in the federal sector. Its recent awards include the 2006 Corporate University Best in Class Awards for Best Overall Corporate University, Best Mature Corporate University, and Best Virtual Corporate University.

According to the DAPA report: "….with the exception of training and certification, the implementation of the Defense Acquisition Workforce Improvement Act

[75] AT&L Workforce Datamart, End of FY 2006; all references to a year associate with the datamart were the end of that fiscal year, (Statistic includes civilian members of the business, cost estimating, and financial management career field).

[76] *Defense Acquisition Performance Assessment Report*, January 2006, pp. 12, 28, and 29.

has been spotty across the Department."[77] The Department continues to expand its training infrastructure and resources to enhance workforce capability. These resources include knowledge sharing tools; Web-based performance support; and new and redesigned courses (resident, hybrid, and online), including both training and educational assets. Additionally, the Department is deliberately expanding leadership resources for the workforce.

In October 2006, USD(AT&L) deployed a joint competency management initiative involving AT&L functional leaders, component acquisition leaders, field subject matter experts, DAU representatives, and competency experts. Updating the models included identifying behaviors and underlying knowledge, skills, and abilities for successful performance. AT&L competency models for all acquisition career fields are scheduled to be completed by September 2008. As the model for a particular career field is completed, a pilot assessment of a sample of the workforce will be completed to validate the competency model and make improvements. Finally, a follow-on workforce assessment will be conducted for each career field. Workforce assessments for all career fields will be completed by December 2008. Future action will include continued competency update, validation, and skill gap assessment efforts in collaboration with AT&L community partners.

The assessment results will assist Department senior leaders in implementing workforce strategies to address critical skill gaps, as well as targeting new education and training resources. The Department has already restructured the engineering training track to improve overall workforce capability. Evolving training requirements for the T&E, contingency contracting, and requirements development communities, and improving certification levels for all functional career fields throughout the AT&L enterprise will require increased funding for training. Today, the need to increase funding for acquisition training is viewed as a critical priority.

Training for the Requirements Community

In response to FY06 NDAA, Section 801,[78] the Department is developing training for the requirements community that will enable "Big A" acquisition.[79] Requirements and acquisition communities have critical, interdependent roles. DAWIA has focused training on the acquisition workforce. Currently, there is limited acquisition-context training for personnel who develop requirements. Historically,

[77] *Defense Acquisition Performance Assessment Report*, January 2006, p. 28.

[78] NDAA FY06 Section 801, Requirements Management Training Certification Program, requires the Department to train and certify personnel who develop requirements, by September 2008.

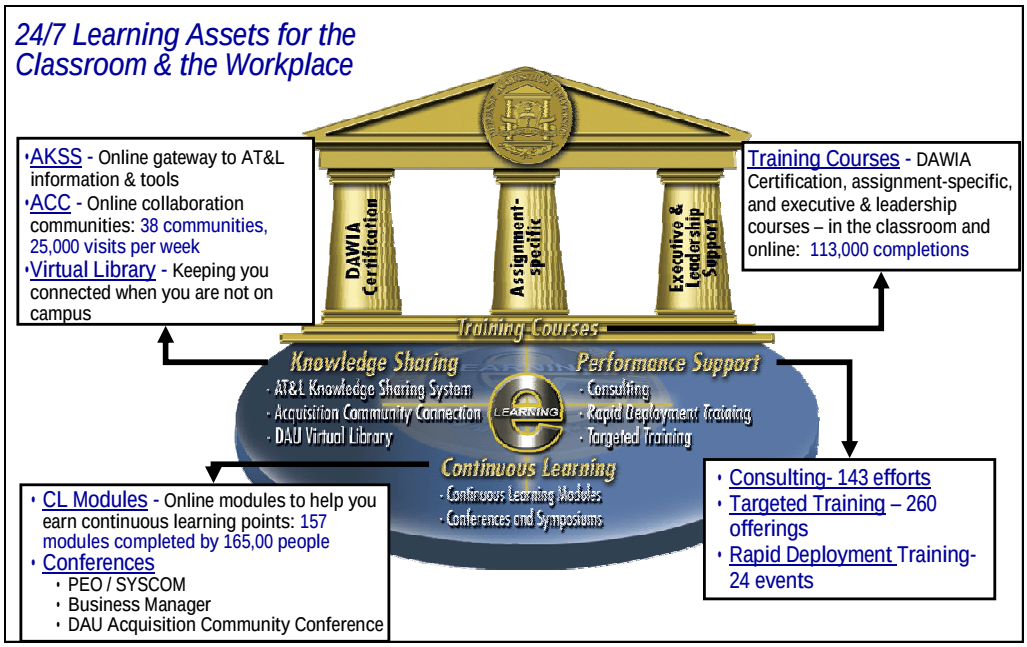
[79] "Big A" refers to the entire spectrum of the Defense Acquisition System. "Big A" deals with strategic choice: How the Defense Department determines which assets and investments to acquire to deliver an overall capability. The activities within "Big A" include: workforce, acquisition, requirements, budget, industry, and organizations. See *Defense Acquisition Transformation Report to Congress, John Warner National Defense Authorization Act, Fiscal Year 2007, Section 804*, February 2007, p. 2-4.

most of these personnel have not been viewed as part of the acquisition workforce. This new initiative, between the acquisition and requirements communities, should improve the quality of requirements and therefore the effectiveness and efficiency of supporting "Big A" acquisition solutions.

The AT&L Performance Learning Model

DoD should continuously improve ways to help the acquisition workforce to be successful on the job. Those ways should include delivering the right knowledge and skills at the employee's learning point of need. The AT&L learning architecture is the Performance Learning Model (PLM) shown in Figure 3-10. That model integrates all learning activities to enhance job performance and workplace capabilities for all individuals in entry level through KLPs.[80] The model, transparent to the learner, provides convenient and economical access to learning products 24 hours a day, 7 days a week. As a useful learning network, PLM provides workforce members with seamless access to learning assets.

Figure 3-10. AT&L Performance Learning Model



[80] According to DoD Directive 5000.52, part 4.2.2.1, January 12, 2005, KLPs must include the PEO, PM, and deputy PM for Major Defense Acquisition Programs including Major Automated Information Systems (MAIS), and PEOs and PMs of significant non-major programs, including MAIS. Section 820 requires that the positions of PM, deputy PM, chief engineer, systems engineer, and cost estimator in ACAT I and ACAT IAM programs be performed by a "qualified member of the Armed Forces or full-time employee of the DoD." Integrated workforce planning must consider this requirement. The AT&L KLPs initiative adds the positions of program contracting officer and PEOs.

Major components of the PLM include the following:

- **Certification and assignment-specific training.** AT&L offers over 90 certification courses spanning 13 career fields. Learning assets are delivered through a mix of classroom, Web-based, and hybrid offerings.
- **Continuous learning.** The Continuous Learning Center (CLC) provides more than 150 self-paced modules that keep the DoD AT&L workforce abreast of policy and procedures.
- **WebCasts.** This new hybrid media initiative provides live interactive learning events between AT&L leaders, DAU faculty, and workforce members.
- **Performance support.** Through onsite consulting, targeted training, and online knowledge sharing tools, AT&L continues to support students and their organizations following the classroom experience.
- **Knowledge sharing.** The AT&L Knowledge Sharing System and Communities of Practice provide the DoD AT&L workforce and its industry partners with an easily accessible and enhanced means to learn, share what they have learned, and use the knowledge to improve performance.

Full deployment of the net centric PLM expands the reach and learning environment for the approximately 128,000 members of the AT&L workforce. It enables the learning enterprise to overcome the boundaries of time, space, and distance. Figure 3-10 illustrates the key elements and FY06 impact of training, performance support, consulting, and knowledge sharing.

Other Significant Learning Initiatives

Delivery of the senior-level PMT 401 training is a partnership among the Industrial College of the Armed Forces (ICAF), DAU, and other venues outside of the DSMC Campus. In FY04, DAU began providing case-based acquisition training at ICAF. In 2006, an expanded curriculum (full PMT 401) became one of the options to complete the Senior Acquisition Course (SAC) requirements at ICAF. During this first year of full PMT 401 delivery at ICAF, 21 students selected the PMT 401 option; additional demand is anticipated in the future. The expanded opportunities to complete PMT 401 as a part of SAC and the SSCF program has significantly broadened critical thinking and decision-making training for the AT&L workforce, especially future civilian leaders.

The Senior Service College Fellowship (SSCF) is a partnership among the Army, DAU, and University of Alabama in Huntsville. It expands opportunities for civilian senior leadership development. Approximately 88 percent of the AT&L workforce is civilian, spanning all skill categories. The SSCF program offers senior service college certification, Program Managers Course (PMT 401) completion,

and opportunity to earn an advanced degree, significantly reducing time and cost. The program is expanding to other regions and scalability challenges are being addressed relative to broader applications.

WORKFORCE FINDINGS

The major findings from this analysis of the AT&L workforce are summarized below:

1. Maintaining a high performing, agile and ethical workforce is the USD(AT&L)'s top priority. Leadership focus of the SSB has generated significant momentum supporting strategic human capital planning and initiatives.

2. The Baby Boomer and older generations comprise 71 and 76 percent of the DoD and the AT&L civilian workforce, respectively. DoD faces challenges related to mitigating the pending departure of its highly experienced and seasoned talent.

3. The Army has an acquisition workforce of 45,443, while the Navy has 40,651 and the Air Force has 25,075. Those workforces vary widely in terms of their composition. Most use support contractors to assist in the accomplishment of the acquisition mission.

4. KLPs are being identified throughout the AT&L enterprise and will support FY07 NDAA Section 820 implementation.

5. The AT&L workforce is the most experienced in the Department. Fifty percent of the AT&L civilian workforce has over 20 years of experience compared with approximately 40 percent of the DoD General Schedule workforce.

6. The AT&L workforce is highly educated with 74 percent of the civilians having bachelors or advanced degrees and 23 percent having advanced degrees. Eighty percent of the new hires during the past 5 years have bachelors or advanced degrees.

7. Certification level is a workforce quality indicator. Today, 75 percent of the individuals filling critical acquisition positions are certified, while 65 percent meet or exceed position-level requirements. Sixty-six percent of the AT&L workforce are certified, and 50 percent meet or exceed their position-level requirements.

8. Access to current, accurate, and complete workforce data is a critical success factor for improved human capital management. While significant progress is being made under the ongoing AT&L workforce Data Green initiative, continued emphasis and focus is required.

9. Support contractor personnel are an integral part of the DoD Total Force construct. Efforts are currently ongoing to identify, define, and track support contractor personnel.

10. Evolving increased training requirements for the T&E community, contingency contracting, requirements training, and improving certification levels for all acquisition career fields throughout the AT&L enterprise will require increased funding for training. Today, the need to increase funding for acquisition training is viewed as a critical priority.

The workforce, as a whole, is highly experienced, highly educated, and have received significant training. Maintaining a high performance, agile, and ethical workforce is a top priority for DoD and multiple initiatives are in place to address workforce capabilities and shortfalls. Some areas could be improved, such as ensuring workforce members meet or exceed certification levels required by their assigned position. High-quality workforce information that is current, accurate, and complete is a critical success factor for improved human capital management. AT&L's Data Green initiative for improving data quality is imperative. KLPs and the requirements for Section 853 and Section 820, FY 2007 NDAA, are being implemented. The workforce is augmented by support contractors, and there are opportunities to improve both identification and management.

Chapter 4
Recommendations

SECTION 814 REQUIREMENT

(1F) Make such recommendations as the review team determines to be appropriate

(2B) Actions that may be needed to improve acquisition outcomes

RECOMMENDATIONS

The combined information gathered from prior studies, surveys, interviews, and data analyses formed the foundation of the study. This foundation enabled the team to identify organizational and workforce strengths, gaps, and deficiencies and from that point, derive findings and develop recommendations.

Nine overarching actions will enable DoD to meet the challenges of achieving the right organizational construct with the right-shaped acquisition workforce.

1. **Develop strategic, data-driven workforce shaping objectives.** Improve strategic total force integration, especially with regard to support contractors filling critical workforce gaps. Track FY 2006 NDAA Section 343 initiatives to better understand utility and application. Develop and use workforce capacity and quality metrics for long-term workforce planning and successful management.

2. **Improve workforce data quality.** Fully capture accurate workforce attributes such as size, certifications, tenure and other data required for effective strategic planning, hiring, development and management of the AT&L workforce. Continue the Data Green initiative to standardize data inputs to Defense Manpower Data Center (DMDC), Defense Civilian Personnel Data System (DCPDS) and AT&L Workforce Datamart to achieve comprehensive data-driven workforce analysis, and workforce decision-making capabilities.

3. **Revalidate and improve current training, certification, education, and qualification standards.** Focus on critical skill set gaps, both current and future, in important acquisition mission areas. Use standard competency models and competency assessments to improve workforce career development, training, and management of capability. Currently, such competency models have been completed for program management, lifecycle

logistics, and contracting. They should be completed for all functional areas.

4. **Fully develop and deploy strategy to implement an Employee Value Proposition Initiative**. Employee Value Propositions represent a holistic combination of all things valued by employees, including leadership, experiences, training, and compensation; it also forms the foundation of future recruiting campaigns and employee development and retention activities.

5. **Establish student or intern programs.** Develop proposals and strategies to help mitigate the impending departure of seasoned talent in the Baby Boomer generation from the AT&L workforce.

6. **Work with the DoD Comptroller to establish standard and consistent training and certification standards for individuals outside the acquisition organizations who perform acquisition-related budget functions.** This training and standards would enable those individuals to receive requisite acquisition training to enhance their job performance.

7. **Charter future Joint Program Executive Offices.** Use the Joint Tactical Radio Systems management structure as a preferred model. This model includes clearly stated directive authority for management, funding, and staffing, along with personnel performance ratings and technical decisions. These offices would enable mitigation of many problems identified by this review and prior studies.

8. **Mitigate the impact of departing seasoned talent, especially engineering, scientific, and technical expertise from the AT&L workforce**. Analyze and develop retention and recruiting options by developing strategic workforce insights as more standardized data and career field information is available. Acquisition organizations must understand their current demographic situation and develop workforce life-cycle planning profiles.

9. **Increase funding levels for acquisition training.** This funding should cover expanded capacity to address growing training needs for requirements, financial/cost, contingency contracting, contract management and Test and Evaluation communities, and improving certification levels for all acquisition career fields throughout the AT&L workforce.

Appendix A
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United States House of Representatives, Office of the Law Revision Counsel, Title 10, United States Code, Section 133a, "Deputy Under Secretary of Defense for Acquisition and Technology."

United States House of Representatives, Office of the Law Revision Counsel, Title 10, United States Code, Section 133b, "Deputy Under Secretary of Defense for Logistics and Materiel Readiness."

United States House of Representatives, Office of the Law Revision Counsel, Title 10, United States Code, Section 196, "Department of Defense Test Resource Management Center."

Appendix B
Section 814, NDAA FY06

This appendix presents the Section 814 tasking to the Defense Acquisition University.

SEC. 814. REVIEW OF DEFENSE ACQUISITION STRUCTURES AND CAPABILITIES.

(a) REVIEW BY DEFENSE ACQUISITION UNIVERSITY.—The Defense Acquisition University, acting under the direction and authority of the Under Secretary of Defense for Acquisition, Technology, and Logistics, shall conduct a review of the acquisition structures and capabilities of the Department of Defense, including the acquisition structures and capabilities of the following:

(1) Each military department.

(2) Each defense agency.

(3) Any other element of the Department of Defense that has an acquisition function.

(b) ELEMENTS OF REVIEW.—

(1) IN GENERAL.—In reviewing the acquisition structures and capabilities of an organization under subsection (a), the Defense Acquisition University shall—

(A) determine the current structure of the organization;

(B) review the evolution of the current structure of the organization, including the reasons for each reorganization of the structure;

(C) identify the capabilities needed by the organization to fulfill its function and assess the capacity of the organization, as currently structured, to provide such capabilities;

(D) identify any gaps, shortfalls, or inadequacies relating to acquisitions in the current structures and capabilities of the organization;

(E) identify any recruiting, retention, training, or professional development steps that may be needed to address any such gaps, shortfalls, or inadequacies; and

(F) make such recommendations as the review team determines to be appropriate.

(2) EMPHASIS IN REVIEW.—In conducting the review of acquisition structures and capabilities under subsection (a), the University shall place special emphasis on consideration of—

(A) structures, capabilities, and processes for joint acquisition, including actions that may be needed to improve such structures, capabilities, and processes; and

(B) actions that may be needed to improve acquisition outcomes.

(c) FUNDING.—The Under Secretary of Defense for Acquisition, Technology, and Logistics shall provide the Defense Acquisition University the funds required to conduct the review under subsection (a).

(d) REPORT ON REVIEW.—

(1) IN GENERAL.—Not later than 180 days after the completion of the review required by subsection (a), the University shall submit to the Under Secretary of Defense for Acquisition, Technology, and Logistics a report on the review.

(2) ANNEX.—The report shall include a separate annex on the acquisition structures and capabilities on each organization covered by the review. The annex—

(A) shall address the matters specified under subsection (b) with respect to such organization; and

(B) may include such recommendations with respect to such organization as the University considers appropriate.

(3) TRANSMITTAL OF FINAL REPORT.—Not later than 90 days after the receipt of the report under paragraph (1), the Under Secretary shall transmit to the congressional defense committees a copy of the report, together with the comments of the Under Secretary on the report.

(e) DEFENSE ACQUISITION UNIVERSITY DEFINED.—In this section, the term “Defense Acquisition University” means the Defense Acquisition University established pursuant to Section 1746, Title 10, United States Code.

Appendix C
Section 814 Review Team and DoD Component Representatives

Many individuals participated in the execution of the Section 814 Defense Acquisition Structures and Capabilities Review and assisted in the compilation of the Section 814 Report. Listed below are the members of the Section 814 review team, Points of Contact (POC) for the military departments, combatant commands, defense agencies and field activities and individuals of who participated in the Section 814 review:

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  - Paul Alfieri, Review Team Navy POC
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- U.S. Transportation Command
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- Defense Commissary Agency
  - Beverly Cannady
  - John Lavinus, Agency POC
- Defense Contract Audit Agency
  - Karen Cash, Agency POC
  - Joe Garcia

- Defense Contract Management Agency
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  - Karen Penn, Agency POC
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  - Lorraine Allison
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- Defense Information Systems Agency
  - George Coker, Agency POC
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- National Geospatial Intelligence Agency
  - Leu Bourneuf, Agency POC
  - Edward Poore, Agency POC
- National Security Agency
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  - Jack Russell, Agency POC
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- Washington Headquarters Service
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- Robert Malloy, LMI
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Appendix D
Survey Participants

Representatives from 63 organizations participated in the Defense Acquisition Structures and Capabilities Review survey. These organizations are listed below.

DEPARTMENT OF THE ARMY

- Program Executive Office (PEO) for Ammunition
- Acquisition Support Center (ASC)
- ASC/Strategic Plans & Analysis
- Joint Program Executive Office (JPEO) for Aviation
- PEO Command, Control and Communications—Tactical
- JPEO for Chemical and Biological Defense
- PEO Combat Support & Combat Service Support
- PEO Enterprise Information Systems
- Program Manager Future Combat Systems (Brigade Combat Team)
- Army Materiel Command, G-1
- PEO Intelligence, Electronic Warfare, and Sensors
- PEO Missiles and Space
- Department of the Army staff agencies
- PEO SOLDIER
- PEO Simulation, Training, and Instrumentation.

DEPARTMENT OF THE NAVY

- Office of Naval Research
- Direct Report Program, Strategic Systems Program

- Navy Marine Corps Intranet
- Naval Facilities Engineering Command
- Naval Supply Systems Command
- Naval Air Systems Command and affiliated PEOs
- PEO Command, Control, Communications, Computers and Intelligence
- PEO Space Systems
- Space and Naval Warfare Systems Command
- Marine Corps Systems Command
- Military Sealift Command
- Naval Sea Systems Command
- PEO Littoral and Mine Warfare
- PEO Ships
- PEO Submarines
- PEO Aircraft Carriers.

DEPARTMENT OF THE AIR FORCE

- Office of the Assistant Secretary of the Air Force (SAF)/Acquisition Contracting
- Air Armament Center
- SAF/Information Dominance
- SAF/Global Power
- SAF/Science, Technology, and Engineering
- SAF/Acquisition, Integration
- SAF/Acquisition, Directorate of Global Reach
- Space and Missile Center
- Joint Strike Fighter

- SAF/Deputy Assistant Secretary of the Air Force for Space Acquisition
- Electronic Systems Center
- Aeronautical Systems Center
- Air Force Materiel Command.

DEFENSE AGENCIES

- Defense Advanced Research Projects Agency
- Defense Contract Audit Agency
- Defense Commissary Agency
- Defense Contract Management Agency
- Defense Logistics Agency
- Department of Defense Education Activity
- Defense Threat Reduction Agency
- Defense Security Cooperation Agency
- Missile Defense Agency
- American Forces Information Service
- National Security Agency
- National Geospatial-Intelligence Agency
- TRICARE Management Activity, Office of the Assistant Secretary of Defense (Health Affairs)
- Washington Headquarters Service
- Defense Intelligence Agency
- Defense Information Systems Agency
- Defense Security Service.

COMBATANT COMMANDS

- U.S. Transportation Command
- U.S. Special Operations Command.

Appendix E
Acknowledgments

The Section 814 review team consulted a number of key members of the acquisition community within the military departments, defense agencies and field activities, industry, and academia. The review team wishes to acknowledge the contributions of these key individuals:

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