Identification of the Department of Defense Key Acquisition and Technology Workforce

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Allan V. Burman
Nathaniel M. Cavallini
Kisha N. Harris

Jefferson Solutions
1341 G. Street, N.W., Suite 1100, Washington DC 20005
(202) 626-8219 or fax (202) 626-8578

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EXECUTIVE SUMMARY

BACKGROUND

Over the years there has been considerable controversy concerning the size and composition of the Department of Defense (DoD) Acquisition Workforce (AWF). Various definitions have been used to identify this workforce, with no consensus being achieved. Of the many attempts made to identify those carrying out the acquisition mission, each was subject to significant limitations.

In his April 1997 testimony to Congress, the Acting Under Secretary of Defense for Acquisition and Technology (USD(A&T)) committed to developing a better means for identifying the DoD AWF. In May 1997, OUSD(A&T) contracted with Jefferson Solutions (Solutions) to review alternative ways of identifying this workforce.

Solutions recommended that the DoD AWF could best be identified using an updated and modified version of an approach developed by the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission). The Solutions' methodology builds on the Packard Commission algorithm of using occupational and organizational data for identifying the workforce. The methodology is detailed in Solutions' September 1997 Report. This report identified a total acquisition workforce of 189,158 personnel, including clerical support. This report was based on 31 March 1997 data.

In an 18 December 1997 letter, the Secretary of Defense forwarded Solutions' report to Congress, stating that beginning October 1, 1998, members of the AWF would be uniformly identified using the Solutions' model. In December 1997, a DoD Acquisition Workforce Identification Working Group was formed to comply with the Secretary's direction to refine the model.

THE REFINEMENT PROCESS

Over the period December 1997 through March 1998, the working group made numerous adjustments to the model. For example, it examined acquisition functions within an acquisition lifecycle framework to identify more precisely which occupations and organizations should be included in any workforce count. It also determined that two counts should be conducted to validate the model and to take advantage of lessons learned from the first count. In a 7 April 1998 memorandum, the USD(A&T) tasked the Services and Agencies to conduct an initial count of their AWF using 31 March 1998 personnel data. This count afforded them an opportunity to

refine both the occupational and organizational lists used in the workforce identification algorithm. This initial count as well as all subsequent counts reflect personnel data, that is, actual civilian and military personnel on board, and not manpower data, as for example, authorized spaces or full time equivalent employees.

The Services and Agencies conducted their initial count from mid-April through early June 1998, and the working group compiled and analyzed the data from mid-June through October 1998. The group addressed such issues as whether or not to include the Defense Contract Audit Agency (DCAA) and the Army Corps of Engineers in the workforce and how to deal with science and technology personnel and clerical support. One result of this review process was the decision to revise the algorithm to count the Science and Technology (S&T) component of the workforce in a separate category (Category IIB). In addition, it was agreed to change the name of the Acquisition Workforce to the Acquisition and Technology Workforce (A&TWF) to recognize the technical expertise required across DoD to perform the acquisition mission.

The working group has made many useful refinements to the identification model over the past year to make the workforce determination as accurate as possible. It has also incorporated into the model lessons learned from the initial count. A USD(A&T) memorandum, dated 20 November 1998, tasked the Services and Agencies to conduct their second count, again using 31 March 1998 data to validate and baseline the refined Packard methodology.

The methodology as updated in the USD(A&T) memorandum, dated 20 November 1998, represents the fiscal year 1999 refined Packard algorithm. The results of this count showed a civilian and military acquisition and technology workforce of 149,439. The algorithm will again be run using 30 September 1998 data to provide the Fiscal Year 1998 end count. This will also serve as the Fiscal Year 1999 starting baseline and will be updated on a regular basis.

THE ALGORITHM

The refined algorithm only counts the key acquisition and technology workforce members, not clerical or support personnel. The following describes its basic elements:

- The model includes three categories of occupations (people and positions) and two groupings of DoD organizations.
- All occupations listed in Category I (e.g., Contracting) are counted across all DoD organizations.

- All occupations listed in Category IIA or IIB (e.g., Electronics Engineering, Budget Analysis) are counted whenever they are located in a listed acquisition-related (Group IIA) or science and technology-related (Group IIB) organization.
- All military officers located in a listed Group IIA or IIB organization are considered part of the workforce.

- Category III capability is used to add any key acquisition and technology positions not captured above, or to delete any Category II positions that are not applicable. For example, all applicable enlisted acquisition and technology positions are added to the workforce using this capability.
- All previously identified DAWIA positions, not captured above, are added to the workforce using the Category III capability.

SUMMARY RESULTS OF THE SECOND (FINAL) COUNT

The DoD Key Acquisition and Technology Workforce (A&TWF) identified using the refined Packard algorithm, as outlined in USD(A&T) memorandum dated 20 November 1998, yielded a workforce of 149,439 personnel, as mentioned above. The Acquisition Workforce Identification Working Group devoted most of their time to refining Army, Navy/USMC, Air Force, Defense Logistics Agency, Defense Contract Audit Agency, and Ballistic Missile Defense Office numbers, which comprised approximately 99% of the total DoD key A&TWF. These numbers continue to be based on 31 March 1998 data. A&TWF Final Count Summaries and backup detailed data are contained in Appendix E. The following provides a breakout of the Second Count by DoD Component, Category, and Occupation:

DoD Key A&TWF Totals
(Based on the Second Count - March 1999)
31 March 1998 data
By DoD Component

Army	42,365
Navy	49,683
Air Force	33,421
Fourth Estate	23,970
Total DoD A&TWF	149,439

By Category

Category I (Civ)	25,567
Category IIA (Civ)	85,504
Category IIB (Civ)	8,789
(Cat IIB, S&E	7,865)
(Cat IIB, Other	924)

Category III (Civ)	13,201
Total Civilians	133,061
Total Military	16,378
Total DoD A&TWF	149,439

DoD Key A&TWF Second Count Totals

By Occupation

Engineers	44,117
(Electronics Engineers	15,833)
(General Engineers	7,303)
(Aerospace Engineers	3,214)
(Mechanical Engineers	6,382)
(Civil Engineers	2,800)
Management	15,509
Contracting	19,387
Comm/Computers	9,370
Financial Mgmt.	3,618
Business & Industry	12,989
Scientists	4,476
Admin & Programs	5,116
Auditing	3,692
Proc. Asst.	2,650
Math. & Statistics	2,400
Purchasing	2,158
Supply Prog. Mgmt.	1,753
Inventory Mgmt.	944
Equip. Spec.	858
Gen. Supply	326
Misc.	3,698
Total Civilians	133,061
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Total DoD A&TWF	149,439

IMPORTANT CONSIDERATIONS ABOUT THE MODEL

One must be careful not to take the A&TWF numbers out of context since there are various ways to use the data to answer questions about the workforce. Some of the key considerations are as follows:

- As noted above, the algorithm counts people, not positions. These numbers are used for personnel management, as, for example, for fulfilling education, training, and career development requirements for the acquisition and technology workforce. These are not manpower numbers and are not to be viewed as the full-time equivalents (FTEs) used for

workforce reductions. Moreover, while all of the personnel identified perform acquisition, they do not all perform acquisition all of the time. For example, logistics management personnel are included only if they spend more than half of their time on acquisition matters. Therefore, any reductions related to these numbers would likely affect other functions in the DoD and not just the acquisition mission.

- The Services and Fourth Estate will have to update their Category III information with FY99 data before the DMDC database for FY99 can be used as a baseline.
- The numbers are only as good as the data in the DMDC database. Components are responsible for keeping the numbers current for each quarter.
- Past trends are hard to develop due to changes over time in unit identification codes (UICs) which represent key sorting parameters for the organizational component of the algorithm. These codes identify subcomponents of organizations and allow a more precise accounting of the specific activities that are performing acquisition or technology functions.
- There are reasons for the differences in the size for the acquisition and technology workforces of the three Military Departments and the Fourth Estate. Various factors help to explain these differences, as, for example, overall funding levels, use of contracted support, significant organizational differences, and breadth of Service mission. All of these factors should be taken into account in any downsizing assessments.
- Occupational series do not always reflect the actual function being performed by the individuals in them. For example, engineers are not all performing engineering functions. Many are in management positions or are providing technical insight into contractor activities for leading-edge technology procurements. On the other hand, those scientists and engineers in Group IIB science and technology organizations are more likely to be performing real science and engineering than other members of the workforce.
- The combination of occupation and organization data, however, offers a good approximation of the type of effort provided to carry out DoD acquisition and technology functions as well as a good indicator of the likely training and career management requirements necessary to keep this workforce current.
- Some areas will require further refinement such as fully accounting for Reserve and Guard personnel and possibly counting personnel in classified organizations.
- Ninety-nine percent of the workforce comes from the Services, the Defense Logistics Agency, the Defense Contract Audit Agency and the Ballistic Missile Defense Office.

- A review of occupation 340, Program Management, for possible shift to Category II will be conducted in the near future for implementation in the fiscal year 2000 refined Packard algorithm. The Air Force and the Army were in favor of this change after they conducted their Final Count, but the Navy and Fourth Estate did not have time to review this change.
- The Category III capability, added during the Refinement process, allows the Components to add any applicable key A&TWF personnel not previously captured by the model, or to delete any Category II personnel that are not considered to be key A&TWF personnel. Review of the second count data indicates that over 90% of all Category III adds are DAWIA personnel not captured elsewhere by the model. Furthermore, a very small percentage of all Category III actions are deletes. Additional analysis is planned with a view toward reducing the number of Category III adds and deletes. The small size (8%) of the number of Category III adds helps to validate the strength of the algorithm.
- Finally, the count does not identify the contractor workforce used to support the DoD acquisition mission and, as such, does not provide a picture of all the resources available to carry out this mission.

CONCLUSIONS

Even given all of the qualifications provided above, this methodology provides DoD with a consistent and uniform approach for identifying those serving in the Acquisition and Technology Workforce that can be independently verified using the DMDC database. It also provides significantly greater clarity on the roles played by those serving in the workforce and offers the potential for a much more effective system for managing these DoD staff. Of course, the accuracy of the model depends on the data collected and these data are only as good as the components' databases used in forming the model. If databases are frequently and carefully updated, then the model will be that much more useful. In addition, as the model proves itself, it should be used to satisfy a variety of DoD needs.

In summary, when fully implemented, the model should provide DoD with an effective, independently verifiable, uniform, DoD-wide system for identifying, managing and training the key Acquisition and Technology Workforce.

RECOMMENDATIONS

The following are recommendations to take advantage of and improve the capabilities offered by the new algorithm:

- Establish a policy or interim policy adopting the Fiscal Year 1999 Refined Packard algorithm as described in the 20 November 1998 USD(A&T) tasker (Appendix D) as the approved method for officially identifying the key Acquisition and Technology Workforce in Fiscal Year 1999.
- Continue to collect workforce information as previously identified through Fiscal Year 1999, since the Fiscal Year 1999 National Defense Authorization Act, Section 931, still refers to using acquisition organization personnel for manpower reduction purposes.
- Continue to support working groups as they provide further analysis and develop processes and procedures for fully implementing the refined Packard approach in Fiscal Year 2000. The following are some of the key working groups:

    - Acquisition and Technology Workforce Identification Working Group (Further refining the algorithm for Fiscal Year 2000 and Fiscal Year 2001, as required).

    - The Re-identified Acquisition Workforce Working Group (Updating education, training, and career development requirements for the workforce).

    - The Identification of DoD Acquisition Functions and Resources Working Group (Updating the DoD manpower planning and programming approach under the refined Packard method since; a.) 5000.58 organizational information is no longer current, and b.) the acquisition organization approach will not work in cases where organizations support more than the acquisition mission).

    - Inter-Service Acquisition Workforce Information Technology Working Group (ISAWITWORK – Developing information/data management tools for the A&TWF).

- Based on the results of the above working groups, Section 912c Studies, and other personnel-related studies or initiatives, develop an integrated workforce management strategic plan, policies, directives, other documentation, and reporting and tracking mechanisms, as required, for fully implementing the refined Packard algorithm in Fiscal Year 2000 and beyond.

SECTION I

BACKGROUND

Various approaches have been used over the years to define the DoD Acquisition Workforce, with each subject to significant limitations. One widely used definition equated this workforce to those personnel employed in Department of Defense (DoD) acquisition organizations, as defined by DoD Instruction 5000.58. This model yielded a workforce totaling 365,747 personnel as of March 31, 1997. However, this approach has significant drawbacks, overstating the numbers of acquisition personnel in these organizations while failing to account for those serving elsewhere in DoD. For example, doctors and security guards, simply by being employed by these organizations, are shown as acquisition personnel. Conversely, contracting specialists who serve outside these organizations, are not counted.

In an April 1997 hearing before the House National Security Committee, Defense witnesses presented different methods of defining the workforce. For example, one witness offered the acquisition organization approach described above. Another counted acquisition professionals as identified by the Defense Acquisition Workforce Improvement Act (DAWIA), resulting in a workforce of 105,000. There was, therefore, roughly a 250,000 person variance between the two approaches.

In light of these differences, the Acting Under Secretary of Defense for Acquisition and Technology (USD(A&T)) committed at the hearing to develop a better, more consistent way to identify this workforce. In May 1997, OUSD(A&T) contracted with Jefferson Solutions (Solutions) to work with DoD on this project. Solutions interviewed knowledgeable officials, examined various workforce models, and reviewed previous studies with the objective of developing a more accurate, useful and understandable definition.

Based on this review, Solutions in a September 1997 report concluded that an updated version of an approach developed by the Packard Commission in the mid-1980's offers a more accurate representation of the workforce. The Packard model focuses on occupations and organizations to determine whether or not an individual is performing an acquisition function.

Under the Packard algorithm, the DoD acquisition workforce consists of two groups of personnel:

1) all those employed in acquisition occupations (e.g., Contracting) wherever they are located in DoD (Designated as Category I personnel in the Solutions' report); and;
2) those employed in acquisition support occupations (e.g. Budget Analysis) only if they are located in certain acquisition-related organizations. (these individuals are designated as Category II personnel and the acquisition-related organizations as Group II organizations).

Solutions' September 1997 updated version of the Packard definition, based on March 31, 1997 data, yielded an acquisition workforce totaling 189,158 personnel (including clerical), roughly half the size of the acquisition organization total described above.

In its report, Solutions recommended that DoD adopt the revised Packard definition as its model for assessing workload, managing its acquisition workforce, and defining training needs under DAWIA. It concluded that this definition offered a verifiable and consistent means for analyzing department wide staffing data and for initiating a trend line. Moreover, it could assist the Department in assessing career development, training and education needs and, with enhancements, provide an effective tool for DoD manpower planning and management. By applying the algorithm in a uniform manner across DoD, all parties, including the Congress, could look to this model to understand better the size, composition, functions and role of this workforce in carrying out the Department's vital acquisition mission. The Solutions' methodology is fully detailed in its September 1997 Report.

In an 18 December 1997 letter, the Secretary of Defense forwarded the Solutions' report to Congress, stating that beginning October 1, 1998, members of the workforce would be uniformly identified using a further refined version of the model Solutions developed. In December 1997, a DoD Acquisition Workforce Identification Working Group was formed to comply with the Secretary's direction to refine the model.

The working group was comprised of representatives of the Services, Fourth Estate agencies and organizations, the Office of the Secretary of Defense (OSD), the Defense Manpower Data Center (DMDC), the offices of the Directors for Acquisition Career Management (DACM's), and Jefferson Solutions. Dr. James McMichael, the Director, Acquisition Education, Training, and Career Development was the lead for the Department. Appendix A lists the group members.

Throughout 1998, the working group updated, modified, and refined the methodology. It also addressed a number of important issues. These included such questions as how acquisition functions should be defined; and what occupations should constitute the workforce. The following sections of this report provide further detail on the refinement process and suggest future actions to be taken to improve the model and expand its use.

SECTION II

THE REFINEMENT PROCESS

A prime goal of the refinement process was to develop a consistent means for identifying workforce members across the Department. Therefore, the working group spent considerable time discussing how each component approached workforce identification as well as how they handled Defense Acquisition Workforce Improvement Act (DAWIA) implementation. To assist in achieving comparability, the group developed a list of acquisition functions performed throughout the life cycle of a program, from R&D through disposals, as an initial means for determining the types of tasks carried out in the acquisition process. The group used these functions and tasks as a common baseline to further refine the list of occupations and acquisition-related organizations that was included in Solutions' September 1997 report.

As a first order of business, the group agreed that the basis of all counts should be personnel data, that is, information on actual individuals serving in the Department. These data were readily and consistently available to all Defense components. In addition, DMDC data files offered a Defense-wide means for verifying Service and Fourth Estate results. These types of personnel data are ordinarily used for acquisition education, training, and career development purposes. They are not used for manpower planning purposes or for manpower reduction efforts.

In addition to agreeing on the appropriate database to be followed, the group decided that two counts would be needed to validate the algorithm. The initial count would be used to identify issues that needed further resolution as well as to provide a quick check on the refined Packard method. The second count would confirm the algorithm to be used for Fiscal Year 1999. The database baseline of 31 March, 1998, was used throughout the counting process to maintain a common frame of reference for validation.

To allow more flexibility in the algorithm, the group added a new Category III to the Solutions' model. This category let Defense components add or delete personnel, as necessary, to get a more accurate count. The revised algorithm would show not only those in the workforce but also those not included.

<u>The Initial Count</u>

As part of the refinement process, the working group asked the Defense components, OSD and various groups to review its list of acquisition functions. These groups included the Fiscal Year 1998 National Defense Authorization Act Section 912c-e OSD Senior Steering Groups and the Defense Science Board Sub-Task Force on the Acquisition Workforce. There was not common agreement on whether research and development activities should be included in the count. Also, for logistic functions, there was no consensus on how to differentiate acquisition-related from operational activities. To help resolve these issues, the group decided that the initial count should be broadly inclusive, with the components asked to focus their comments on how best to deal with these questions. It was not until the second count that final agreement was reached on the acquisition functional descriptions and the treatment of these areas.

Once a rough functional baseline was established, the working group had a better basis to identify which occupations and organizations should be included in the workforce. Many of the issues addressed by the working group in preparation for the initial count focused on such items as the following:

- How to account for Military personnel, both officers and enlisted;
- Development of the details that would allow some local flexibility in including or excluding certain individuals (Category III capability);
- Development of a revised list of applicable organizations;
- Refinement of the acquisition occupations for Category I and II lists;
- Development and approval of a list of acquisition functional descriptions;
- Use of DMDC to independently verify the Service and agency counts;
- How to count Army Corps of Engineers personnel;
- How to treat the Defense Contract Audit Agency in the count;
- How to include appropriate Logistics personnel; and
- How to count Science and Technology personnel.

The attached USD(A&T) memorandum dated 7 April 1998, (Appendix B) provides the detailed guidance, methodology and acquisition functions relevant to conducting the count.

Appendix C provides a detailed summary of the results of this count. As mentioned above, the count was based on March 31, 1998 data.

Through this refinement process, a number of changes were made to the September 1997 Solutions' model prior to conducting the initial count. For example, in lieu of 21 occupations being counted across DoD in Category I, only 12 were included. Nine engineering occupations were considered to be more appropriately counted under Category II, that is, only at Group II organizations. Further refinements were made by adding and deleting certain Category II occupations. The Group II organizations/Unit Identification Codes (UIC's) were updated and refined. A detailed list of all of these changes including the list of acquisition functions can be found in Appendix B.

Summary Results and Analysis of the Initial Count

The DoD Acquisition Workforce for the initial count, based on March 31, 1998 data, yielded a workforce of 168,678 personnel. While initial count summaries are contained in Appendix C, the following Tables provide a high-level breakout of personnel numbers by DoD Component, Category and Occupation:

A number of key issues remained after the first count. These dealt with the Army Corps of Engineers, the treatment of clerical and administrative staff, how to deal with logistics activities, and the handling of scientists and engineers performing certain research and development functions.

DoD Acquisition Workforce (AWF) Initial Count Totals
(Based on the Initial Count - July 1998)
31 March 1998 data

By DoD Component

Army	43,273
Navy	55,562
Air Force	37,892
Defense Agencies	31,951
DoD AWF Total	168,678

DoD AWF Initial Count Totals by Category

Category I (Civ)	44,559
Category II (Civ)	94,191
Category III (Civ)	12,225
Total Civilians	150,975
Total Military	17,703
DoD AWF Total	168,678

DoD AWF Initial Count by Occupations

Engineering (Total)	41,359	
General Engineering	(7,298)	
Civil Engineering	(2,605)	
Mechanical Engineering	(6,524)	
Electronics Engineering	(15,889)	
Aerospace Engineering	(2,501)	
Contracting	19,263	
Computer Specialist	10,969	
Logistics Management		10,865
Mgmt/Program Analysis	7,862	
BCEFM		7,742
Purchasing	6,192	
Administration & Prog.		5,991
Quality Assurance	5,856	
Science (Total)	4,218	
Auditing	3,699	
Gen. Business & Ind.	3,303	
Supply Prog. Mgmt.	2,300	
Computer Science	2,031	
Program Mgmt.		1,443
Others	17,882	
Total Civilians	150,975	
Total Military	17,703	
DoD AWF Total	168,678	

The main concern regarding the Corps of Engineers was how to distinguish military from civil functions. It was determined that all Corps contracting officers (1102's) should be counted since they perform tasks for both civil-funded and military-funded projects. Similarly, certain engineers possessing warrants would be included in the count and the Corps itself would be shown in Category II as a Group II organization. This approach ensured that personnel in military-funded programs in relevant occupations would be counted. However, those performing civil functions would not be included in the count, since those functions respond to Secretary of the Interior requirements. These staff, therefore, are not part of a "Defense" acquisition workforce.

Another issue was whether or not to include clerical and administrative support staff in the second count. The September 1997 Solutions' report had included such personnel. However, in

the Spring of 1998, Conference Report language in the Defense Authorization Bill encouraged the Department to be able to clearly distinguish those performing key acquisition functions from those in a support role. In this way, proposed reductions could be taken more from support functions than from the key acquisition staff required for the success of the DoD acquisition mission. As a result, the group decided to eliminate all clerical and administrative personnel from the count and refer to those in the count as the "core" workforce. However, in order to avoid confusing this "core" workforce with those performing inherently governmental functions (also identified as "core"), the group replaced the term "core" with "key."

Another issue involved finalizing the logistics functional descriptions to make sure only personnel performing acquisition-related work were counted. Working with DUSD(Logistics) personnel, the definitions for the logistics functions were modified so that the logistics management occupational series (series 343) was only included if individuals in this series spent half or more of their time performing acquisition work. This revision resulted in moving the 343 series from Category I to Category II.

The research and development issue was a particularly difficult one to resolve. Although the first count included all research and development personnel, Director of Defense Research and Engineering (DDR&E) staff, and other Service and organizational staff elements believed it important to distinguish between the scientists and engineers in the science and technology (S&T) community performing pre-milestone zero work and those personnel working in other phases of the acquisition process. The working group initially tried to make this distinction through using research and development funding categories, that is, basic research to engineering development (6.1 to 6.4). However, the funding approach did not offer consistency over time and would have to be revalidated with each count.

The group determined that it was essential to include the S&T scientists and engineers in the count, since they clearly fit more under the "key" workforce than "support" workforce category. However, to accommodate the S&T community's concerns, the group agreed that they would be identified separately from the rest of the workforce. Thus a Category IIB was created. Other business-like occupations comparable to those found in Group IIA organizations are included in a separate section of Category IIB. This approach maintains consistency in the count across DoD and recognizes those other personnel in S&T organizations who perform the same acquisition functions as their counterparts in Group IIA organizations. Therefore, Category IIB now provides

a database count of all personnel involved in pre-milestone zero activities, that is, both scientists and engineers as well as Group IIB business-related professionals.

As a result of separately counting the scientists and engineers in S&T organizations and to describe more precisely the type of personnel in the workforce (more than just "shoppers" and "buyers"), the acquisition workforce was renamed the "Acquisition and Technology Workforce." This change better recognizes the breadth of technical expertise required to perform the DoD acquisition mission.

Second Count

Additional minor refinements were made to the methodology prior to conducting the second count. The full results of the DoD Acquisition and Technology Workforce for the second count are provided in Appendix E. The attached USD(A&T) memorandum dated 20 November 1998 (Appendix D) provides the detailed guidance and methodology for conducting this count. It also includes a summary of all the changes that were made to the algorithm and acquisition functions prior to the count. These changes are summarized as follows:

- The acquisition workforce is now called the DoD Acquisition and Technology Workforce based on the life cycle, cradle to grave approach to accomplish the DoD acquisition mission.
- Personnel performing pre-Milestone Zero work (per DoDD 5000.1) are considered part of the workforce.
- The list of Category I occupations (those counted across DoD) was revised. There are now six occupations in Category I.
- Four occupations, namely Quality Assurance, 1910; Auditing, 511; Logistics Management, 346; and Property Disposal, 1104; formerly in Category I were moved to Category II.
- The list of Category II occupations (those counted only in Group IIA organizations) was revised. There are now 63 occupations in Category II (now called Category IIA).
- A list of Category IIB occupations (those counted only in what is now referred to as Group IIB or Science and Technology organizations) was added. This was to better accommodate the Science and Technology area.
- The Category III capability, which had been added to allow flexibility and to add DAWIA positions which were not captured in the Category I and II counts, is also being used to add all applicable enlisted acquisition positions to the workforce.

The Group II organizational listing (now called Group IIA) is no longer considered notional. The listing represents all the Group IIA organizations (those at which Category IIA occupations will be counted). For example, DCAA is now considered to be a Group IIA organization. NAVFAC and the Army Corps of Engineers (USACE-military funded only) are also considered Group IIA organizations. However, the Corps' non-military funded (civil) activities are not included, except, as mentioned above, for contracting occupations, select engineers with warrants, and their feeder group. USACE personnel are not counted if more than 50% of their work is non-military funded.

The algorithm presently does not fully capture acquisition and technology Guard and Reserve positions. It is estimated that there are approximately 400 of these full-time positions, which are mainly located in the Army. In addition, the Category III capability was enhanced and clarified to ensure all applicable acquisition personnel are captured and also to allow deletes on an exception basis. For example, the Category III capability can be used for the following:

- Adding military officers and civilian personnel who are not covered by the previous categories that are key acquisition and technology personnel.
- Deleting military officers and civilian personnel from the previous categories that are not key acquisition and technology personnel.
- Adding enlisted personnel who are key acquisition and technology personnel.
- Adding all previously identified DAWIA personnel (military and civilian) not covered by the previous categories.

Given all of the changes described above, the refined Packard algorithm for the key Acquisition and Technology Workforce can be summarized as follows:

- All occupations listed in Category I must be counted across the Department. That is, these personnel are considered to be part of the DoD Acquisition and Technology Workforce no matter where they are located in DoD.
- All occupations listed in Category IIA or IIB must be counted whenever they are located in a listed Group IIA or IIB organization, respectively. Although the science and technology personnel are separately identified for management purposes, they are to be included in the total DoD Acquisition and Technology Workforce.

- All military officers located in a listed Group IIA or IIB organization are to be considered part of the workforce.
- All applicable enlisted acquisition and technology positions should be added using Category III capability.
- All previously identified DAWIA positions, not captured above, must be added using Category III capability. Category III capability should also be used to add any applicable key personnel not captured above, or to delete any Category II positions that are not key acquisition and technology personnel.

Summary Results and Analysis of the Second Count

The DoD Key Acquisition and Technology Workforce (A&TWF) identified using the refined Packard algorithm, as outlined in USD(A&T) memorandum dated 20 November 1998, yielded a workforce of 149,439 personnel. The Acquisition Workforce Identification Working Group devoted most of their time to refining Army, Navy/USMC, Air Force, Defense Logistics Agency, Defense Contract Audit Agency, and Ballistic Missile Defense Office numbers, which comprised approximately 99% of the total DoD key A&TWF. These numbers continue to be based on 31 March 1998 data. A&TWF Final Count Summaries and backup detailed data are contained in Appendix E. The following provides a breakout of the Second Count by DoD Component, Category, and Occupation:

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Total DoD A&TWF	149,439

DoD Key A&TWF Second Count Totals
By Occupation

Engineers	44,117
(Electronics Engineers	15,833)
(General Engineers	7,303)
(Aerospace Engineers	3,214)
(Mechanical Engineers	6,382)
(Civil Engineers	2,800)
Management	15,509
Contracting	19,387
Comm/Computers	9,370
Financial Mgmt.	3,618
Business & Industry	12,989
Scientists	4,476
Admin & Programs	5,116
Auditing	3,692
Proc. Asst.	2,650
Math. & Statistics	2,400
Purchasing	2,158
Supply Prog. Mgmt.	1,753
Inventory Mgmt.	944
Equip. Spec.	858
Gen. Supply	326
Misc.	3,698

Total Civilians	133,061
Total Military	16,378
Total DoD A&TWF	149,439

Differences in the size of the A&TWF in the Services

As shown above, the size of the workforce differs by Service, with the Navy being the largest, followed by the Army and the Air Force. Workforce composition also varies. A number of factors can help to explain these differences, as follows:

- The use of Federally Funded Research and Development Centers (FFRDCs) and other nonorganic resources.
- The reliance on military officers and enlisted for carrying out acquisition functions.
- The ability to define acquisition organizations at various levels of detail.
- The requirement to fund and manage construction projects.
- The role of engineers in carrying out agency missions.
- The overall need to perform a variety of distinct missions, as well as variances in Total Obligational Authority and capital asset stock (e.g., major platforms, facilities, war reserves).

The emphasis of this study has been on defining government or "organic" resources necessary for carrying out the key acquisition functions. These comparisons, however, fail to take into account the differences between the Services in their reliance on contractor or "non-organic" support. Some Services rely far more on such non-organic support than others. For example, the Air Force makes considerable use of Federally Funded Research and Development Centers (e.g., Aerospace and Mitre Corporations) in the acquisition process, while the Army and Navy make relatively little use of such support. The application of these resources, therefore, results in some skewing of workforce size and composition.

In a similar vein, the Air Force makes greater use of military officers and enlisted in performing their acquisition mission. The number of military per service are as follows: Air Force, 9,605; Army, 2,675; and Navy, 3,304. These numbers are based on second count data. Simply reviewing civilian workforce numbers would not give a full picture of the resources used to support the acquisition function.

Regarding organizational differences among the Services, all Services break down their major materiel command operations into a series of subcomponents, identified by Unit Identification Codes or UIC's. This organizational refinement allows them to be more precise in

identifying which parts of the organization are actually performing acquisition work. The Navy however, does not break their organizations into subcomponents to the same degree as the Army and Air Force do, and often includes non-acquisition personnel in organizations largely devoted to acquisition functions. Further refinement, therefore, would likely reduce Navy numbers somewhat by eliminating any parts of the larger organization that are not performing acquisition. The Navy is currently reviewing the personnel identified in the Final Count for further refinement.

Both the Army, with its Corps of Engineers, and the Navy, with its Facilities Command (NAVFAC), have a significant number of people dedicated to the construction/construction management function. The numbers for the Army and the Navy are 6,926 positions and 3,455, respectively, based on the second count. The Air Force has no similar set of responsibilities or Air Force organizations performing this role.

A review of the number of engineers used by each Service points to the heavier reliance on these type of personnel by the Navy than by the other Services. Totals by component are as follows: Army, 14,049; Navy, 22,096, Air Force, 6,429; and Defense Agencies, 1,543 for a DoD total of 44,117. The Navy, therefore, has about fifty percent of the total. These numbers are again based on second count data. Some of this difference may be accounted for by the need for a strong engineering review for the Navy shipbuilding process, given the complexity of these weapon systems. In addition, the variety of acquisition needs that the Navy must meet span the full range of Defense systems; sea, undersea, space, air, and ground given the complexity of these weapon systems and the comparative lack of an industrial base in such areas as surface ship and submarine design. These may all be contributors to the differences.

In summary, a number of elements must be considered in understanding the variances among the Services in their acquisition staffing. Other factors may also come to play in this assessment, including the distinctive approach each Service has for conducting its business. Further resolution of the differences will be part of the process for developing the refined Packard algorithm for the Fiscal Year 2000 workforce baseline in conjunction with the results of other workforce-related working groups.

SECTION III
CONSIDERATIONS AND IMPLEMENTATION

Important Considerations About the Model

One must be careful not to take the A&TWF numbers out of context since there are various ways to use the data to answer questions about the workforce. Some of the key considerations are as follows:

- As noted above, the algorithm counts people, not positions. These numbers are used for personnel management, as, for example, for fulfilling education, training, and career development requirements for the key acquisition and technology workforce. These are not manpower numbers and are not to be viewed as the full-time equivalents (FTEs) used for workforce reductions. Moreover, while all of the personnel identified perform acquisition, they do not all perform acquisition all of the time. For example, logistics management personnel are included only if they spend more than half of their time on acquisition matters. Therefore, any reductions related to these numbers would likely affect other functions in the DoD and not just the acquisition mission.

- The Services and Fourth Estate will have to update their Category III information with Fiscal Year 1999 data before the DMDC database for Fiscal Year 1999 can be used as a baseline.

- The numbers are only as good as the data in the DMDC database. Components are responsible for keeping the numbers current for each quarter.

- Past trends are hard to develop due to changes over time in unit identification codes (UICs) which represent key sorting parameters for the organizational component of the algorithm. These codes identify subcomponents of organizations and allow a more precise accounting of the specific activities that are performing acquisition or technology functions. UIC changes over the past decade have been due to a variety of factors, including base realignments, organizational changes or mergers, or other initiatives. However, records have not been kept of these changes. Therefore, it would be almost impossible to use this algorithm with any sort of accuracy to identify fluctuations in this workforce since 1989. An examination of reductions over time would need to come from a manpower, not a personnel, perspective.

- There are reasons for the differences in the size for the acquisition and technology workforces of the three Military Departments and the Fourth Estate. Various factors help to explain these differences, as, for example, overall funding levels, use of contracted support and breadth of agency mission. All of these factors should be taken into account in any downsizing assessments.

- Occupational Series do not always reflect the actual function being performed by the individuals in them. For example, engineers are not all performing engineering functions. Many are in management positions or are providing technical insight into contractor activities for leading-edge technology procurements. On the other hand, those scientists and engineers in Group IIB science and technology organizations are more likely to be performing real science and engineering than other members of the workforce.

- The combination of occupation and organization data, however, offers a good approximation of the type of effort provided to carry out DoD acquisition and technology functions as well as a good indicator of the likely training and career management requirements necessary to keep this workforce current.

- Some areas will require further refinement. For example, Reserve and Guard personnel have not been fully accounted for. The working group will continue to examine how best to identify part time personnel and see if they can be reflected in subsequent refinements of the count. Also, there are outstanding issues between the Defense Acquisition Workforce Improvement Act (DAWIA) and the Information Technology Management Reform Act (ITMRA) that require further resolution. The model may not have accounted for all the computer and communication personnel because of overlaps and gaps between the accounting of personnel in ITMRA and DAWIA. The office for C3I was undergoing major organizational changes at the time of the counts which may also have affected the final numbers.

- Organizations omitted by statute due to their classified missions have not been included in the counts. However, this issue is something to pursue for Fiscal Year 2000 since these personnel are afforded the same education, training, and career development opportunities as their unclassified counterparts. It is hard to provide total resource planning without knowing the numbers of personnel residing in these organizations who might need this training.

- Ninety-nine percent of the workforce comes from the Services, the Defense Logistics Agency, the Defense Contract Audit Agency and the Ballistic Missile Defense Office.

- A review of occupation 340, Program Management, for possible shift to Category II will be conducted in the near future for implementation for the fiscal year 2000 refined Packard algorithm. The Air Force and Army were in favor of this change after they conducted their Final Count, but the Navy and Fourth Estate did not have time to review this possible change.

- The Category III capability, as noted, was added during the Refinement process to allow the Components flexibility and to provide a means to add DAWIA positions which were not captured in the Category I or II counts. Later the Working Group decided to also use this capability to add any enlisted personnel who were considered to be key A&TWF personnel. Besides being used to add any applicable key A&TWF personnel not captured elsewhere by the model, Category III capability should also be used to delete any Category II personnel who are not considered to be key A&TWF personnel. Review of the second count data indicates that over 90% of all Category III adds are DAWIA personnel not captured elsewhere by the model. Furthermore, a very small percentage of all the Category III actions are deletes. Further analysis of this area is planned. For example, occupational series 1106, Procurement Clerical, was dropped from the occupational list for A&TWF personnel prior to the second count. However, many 1106's were added using Category III capability since many of them are DAWIA. Thus, consideration is being given to adding the 1106's back as a Category II occupation. These type of considerations will be pursued in order to further reduce the number of Category III adds and deletes. The small size (8%) of the number of Category III adds helps to validate the strength of the algorithm.

- Finally, the count does not identify the contractor workforce used to support the DoD acquisition mission and, as such, does not provide a picture of all the resources available to carry out this mission.

Refined Packard Implementation Process

The Fiscal Year 1999 key acquisition and technology workforce baseline will be used to determine the necessary education, training and career development requirements for workforce members currently not identified as DAWIA. The Re-identified Acquisition Workforce (RAWF) Working Group, with representation from the Services, other DoD components, Functional Boards, and the Defense Acquisition University, has been formed to facilitate requirements development and implementation. Implementation of the approved requirements will begin in Fiscal Year 2000. This process will also be used to provide a reasonableness check to the count. If it is determined that any personnel were incorrectly identified as members of the key acquisition and technology workforce, the count will be adjusted accordingly and updated. In addition, this working group will identify the associated documentation changes for education, training and career development.

In addition, the Identification of DoD Acquisition Functions and Resources Working Group has been formed to update the Department's acquisition mission Planning, Programming and Budgeting System (PPBS) process based on the refined Packard method. This working group is co-chaired by personnel from the office of the Director, Program Analysis and Evaluation, and the office of the Under Secretary of Defense (Personnel and Readiness). This working group will capture the total resources (manpower and dollars) required to perform DoD's acquisition and technology business, to include direct, indirect, and other related organizational overhead. Again, if this effort raises questions regarding direct and indirect resource accounting and what has been identified as key or support workforce personnel occupations/functions, the refined Packard algorithm will be adjusted as required.

Another important element is to insure the Department has the proper metrics, databases and other tools to retrieve workforce information. It is important to have the proper feedback mechanisms to track progress and effectiveness of the refined Packard model. The Inter-Service Acquisition Workforce Information Technology Working Group (ISAWITWORK) is responsible for updating DoD Directive 5000.55 and ensuring an adequate workforce information architecture is provided to support the implementation of the refined Packard method.

All the workforce-related working groups will share information and ensure that decisions made are in concert with the overall effort and that the refined Packard algorithm is properly updated for Fiscal Year 2000 by the Acquisition and Technology Workforce Identification Working Group. In addition, an interim policy is to be issued for continuing to count the workforce using the old definition and the new refined Packard throughout the year. This will provide the Services and Fourth Estate agencies and organizations a chance to fully address any database or data collection issues. Waiting until Year 2000 to fully implement the refined Packard will also provide an opportunity to incorporate results from the NDAA for Fiscal Year 1998 Section 912c studies and other workforce related strategic planning activities.

SECTION IV

CONCLUSIONS & RECOMMENDATIONS

Conclusions

The Acquisition Workforce Identification Working Group's refinement process proved to be an effective means for updating, modifying and improving the Solutions' September 1997 algorithm. The working group conducted many reviews, addressed and resolved many issues, defined acquisition functions, and conducted validity checks with the assistance of the Defense Manpower Data Center. As a result, modifications have been made to the model that now allow the workforce determination to be as accurate, consistent and verifiable as possible. Of course, while the algorithm offers a good means for identifying the workforce and the roles of those in it, it is by no means a perfect representation of that workforce. Misidentifications may exist in the count, and some who should be included left out. However, what the model does present is a clear picture at a point in time of what that workforce looks like and what people in it are doing. Moreover, that count can be independently verified by the DMDC and any outside reviewer.

DoD should adopt this new methodology as the best means for identifying the key DoD acquisition and technology positions, and ensuring that it is applied in a uniform and consistent manner across the Services and Agencies. Through this refinement process, the DMDC has developed the capability to fully validate the model. The DMDC should be employed as the independent organization to monitor and verify the valid and uniform implementation and future use of the new, refined Packard definition.

The new, refined Packard definition should be used as an effective DoD management tool (e.g., as a more effective DoD wide career development, training and education tool). It not only provides a more accurate representation of those personnel who are actually performing acquisition tasks and functions but, in addition to providing a more accurate workforce size, it also provides a more accurate representation of the composition and functions of the DoD Acquisition and Technology Workforce.

The algorithm should be updated and refined periodically to ensure that the latest changes to areas such as occupations, organizations and functions are incorporated, thus making it as accurate and viable a management tool as possible.

In summary, this methodology provides DoD with a consistent and uniform approach for identifying those serving in the key Acquisition and Technology Workforce and one that can be

independently verified. It also provides significantly greater clarity on the roles played by those serving in the workforce and offers the potential for a much more effective system for managing these DoD staff. Of course, the accuracy of the model depends on the data collected and these data are only as good as the components' databases used in forming the model. If databases are frequently and carefully updated, then the model will be that much more useful. In addition, as the model proves itself, it should be used to satisfy a variety of DoD needs. When fully implemented, the model should provide DoD with an effective, verifiable, uniform, DoD-wide system for identifying, managing and training the key Acquisition and Technology Workforce.

Recommendations

The following are recommendations to take advantage of and improve the capabilities offered by the new algorithm:

- Establish a policy or interim policy adopting the Fiscal Year 1999 Refined Packard algorithm as described in the 20 November 1998 USD(A&T) tasker (Appendix D) as the approved method for officially identifying the key Acquisition and Technology Workforce in Fiscal Year 1999.

- Continue to collect workforce information, as previously identified, through Fiscal Year 1999, since the Fiscal Year 1999 National Defense Authorization Act, Section 931, still refers to using acquisition organization personnel for manpower reduction purposes.

- Continue to support working groups as they provide further analysis and develop processes and procedures for fully implementing the refined Packard approach in Fiscal Year 2000. The following are some of the key working groups:

    - Acquisition and Technology Workforce Identification Working Group (Further refining the algorithm for Fiscal Year 2000 and Fiscal Year 2001, as required).

    - The Re-identified Acquisition Workforce Working Group (Updating education, training, and career development requirements for the workforce).

    - The Identification of DoD Acquisition Functions and Resources Working Group (Updating the DoD manpower planning and programming approach under the refined Packard method since; a.) 5000.58 organizational information is no longer current, and b.) the acquisition organization approach will not work in cases where organizations support more than the acquisition mission).

- Inter-Service Acquisition Workforce Information Technology Working Group (ISAWITWORK – Developing information/data management tools forthe A&TWF).

- Based on the results of the above working groups, Section 912c Studies, and other personnel-related studies or initiatives, develop an integrated workforce management strategic plan, policies, directives, other documentation, and reporting and tracking mechanisms, as required, for fully implementing the refined Packard algorithm in Fiscal Year 2000 and beyond.

Appendix A

DoD Acquisition Workforce
Identification Working Group Membership

Name	Organization
Chairperson Lt. Col Brandy Johnson	OUSD(A&T), Dir, AET&CD
Dale Fradely	OUSD(A&T), Dir, AET&CD
Joanne Spriggs	OUSD(A&T), ODDR&E
Lt. Col Earl Rasmussen	ASA(A,L&T) (Retired)
Cathy Doolos	ASA(A,L&T)
Frank Noonan	ASA(A,L&T)
Major Michael Williamson	ASA(A,L&T) (Relocated)
Susan Pinciaro	ASN(RDA)
Jean Szutenbach	ASN(RDA)
Gail Halkias	ASN(RDA) (Relocated)
Lt. Col Ralph DiCicco	SAF/AQXD (Relocated)
Sarah Beth Chastain	SAF/AQXD(Relocated)
Major Mario Moya	SAF/AQXD (Relocated)
Diana Daye-Young	SAF/AQXD
Capt. Charles Darnell	SAF/AQXD
John Michel	DAU
Herb Cowles	OUSD(A&T), DODDACM
Karla Merritt	OUSD(A&T), DODDACM
Al Burman	Jefferson Solutions
Nat Cavallini	Jefferson Solutions
Ray Vallee	BMDO
Alex Sinaiko	DMDC
Carol Rosenhoch	DMDC
Steve Hernandez	DCAA

Earl Newman	DCAA
Steve Uehling	DLA
Dave Mabee	DLA
Robin Swatloski	DARPA

Appendix B

Initial Count Methodology

The attached USD(A&T) memorandum dated 7 April 1998 provides the guidance and methodolgy relevant to conducting the Initial Count of the DoD Acquisition Workforce

THE UNDERSECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION AND TECHNOLOGY

07 APR 1998

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Acquisition Workforce Identification

On December 18, 1997, in response to the requirement contained in Section 912(b) of the National Defense Authorization Act for Fiscal Year 1998, the Secretary of Defense informed the Congress that beginning October 1, 1998, members of the acquisition workforcewill 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). He also advised Congress that refinementswill be made to the acquisition workforce identification model as it proceeds toward full implementation.

The Acquisition Workforce Identification Working Group has made refinements to the model to make the workforce determination as accurate as possible. To assist the Services and Agencies in conducting their initial identification and count of workforce members, the Working Group has developed a recommended list of acquisition functions (attached). These are guides for filling out the provided templates.

To identify and count the acquisition workforce, the attached templates of acquisition related occupations are to be applied either across the Department (Category I) or in selected organizations (Category II). Also included is a national list of these selectedorganizations which is not a refined or exhaustive list. Please examine it carefully to see if only sub-elements of the listed organizations should be included as well as if some organizations should be deleted or others added. Finally, to improve the accuracy of the model, you may want to tailor the count by either adding or deleting individuals or occupational groups. If you do so, please provide the reasons for these adjustments. These additions or deletions should be identified in a separate listing (Category III).

There will be two iterations of counting the workforce sothat lessons learned from the first count may be included in the second count. Please conduct the initial count and provide your results, including a breakout of your acquisition workforce personnel numbers, updated occupational lists (including a Category III listing of additions and deletions), and the refined Group II organizational list, to LTC Brandy Johnson, (703) 697-8080/fax 697-7078, by COB April 30, 1998. Each Director, Acquisition Career Management (DACM), should collect the data to insure Component consistency.

J. S. Gansler

Attachments
As stated
DISTRIBUTION:

Army Acquisition Executive
Navy Acquisition Executive
Air Force Acquisition Executive
Special Asst to USD(A&T)
Army Director, Acquisition Career Management
Navy Director, Acquisition Career Management
Air Force Director, Acquisition Career Management

(ìFourth Estateî Organizations)
Chairman of the Joint Chiefs of Staff
Under Secretary of Defense (Acquisition and Technology) 1/
Under Secretary of Defense (Policy)
Assistant Secretary of Defense (Special Operations/Low Intensity Conflict)
Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
Inspector General of the Department of Defense
Commander-in-Chief, U.S. Special Operations Command
Director, Ballistics Missile Defense Organization
Director, Defense Advanced Research Projects Agency
Director, Defense Commissary Agency
Director, Defense Contract Audit Agency
Director, Defense Finance and Accounting Service
Director, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, Defense Special Weapons Agency 2/
Director, On-Site Inspection Agency 2/
Director, American Forces Information Service
Director, Department of Defense Education Activity
Director, TRICARE Management Activity
Director, Washington Headquarters Services (Real Estate and Facilities)
Deputy Director, Acquisition Career Management (Fourth Estate)
President, Defense Acquisition University
Commandant, Defense Systems Management College
President, National Defense University
President, Uniformed Services University of the Health Sciences

cc:

USD(C)

USD(P&R)
ASD(LA)
General Counsel, DoD
Army Deputy Director, Acquisition Career Management
Air Force Deputy Director, Acquisition Career Management
Director, CAIR
Functional Board Chairs

(ìFourth Estateî Organizations)
Director, Defense Intelligence Agency
Director, National Imagery and Mapping Agency
Director, National Security Agency/Central Security Service

NOTEs:

1/ Special Assistant for USD(A&T) is already on distribution.

2/ If the Defense Threat Reduction and Treaty Compliance Agency has been officially formed from the merger of DSWA and OSIA as of the date of memo release, then the Director of this new agency should be on distribution, in lieu of the Director, DSWA and Director, OSIA.

ACQUISITION WORKFORCE DEFINITION

The Acquisition Workforce Identification Working Group recommends that the following functions be considered acquisition functions. These recommended acquisition functions apply to all DoD organizations, including such areas as Strategic Weapons Systems, Tactical Weapons Systems, C4I Systems, Health Systems, Automated Information Systems, among others.

The DoD acquisition functional activities described below (to include all of the Comm-Computer career field) which apply to Information Technologies (IT) and National Security Systems acquisition are included in the acquisition workforce.

The Acquisition Workforce functions also include the Planning and Development of Requirements, Policy Formulation, Acquisition Oversight and Classroom Instruction when such activities are primarily dedicated to one or more of the acquisition functions described below.

The occupations listed below are for DoD civilians. However, equivalent Military Officer and enlisted personnel are also considered to be in the Acquisition Workforce. In addition, Administrative and Clerical support personnel will be determined by statistical means and will be added to the Acquisition Workforce total computed by the identification model. Blue Collar workers (to include, but not limited to, Wage Board personnel employed in such positions as Electricians, Plumbers, Maintenance Mechanics, Motor Vehicle Operators, and like positions) and Base Operating Support personnel (to include, but not limited to, Security Police, Chaplains, Firefighters, Computer Operations personnel, General Education personnel, Recreation personnel, Public Affairs personnel, Doctors, Nurses, Housing Management personnel, Communications Management personnel) are not considered to be in the Acquisition Workforce.

Acquisition Functions

Requirements Development, Systems Planning, Research, Development, Testing, Evaluation, and Science & Engineering - Work performed in these categories is almost

always primarily related to directly supporting acquisition programs, projects or activities. The primary duties and functions of the scientists, engineers, and others found in this area, almost always directly support acquisition efforts, especially when found in Group II organizations In addition, their duties normally require them to perform work that relates to the design, development, fabrication, test, modification, etc. of systems or system components. This area would also include services, engineering, and construction for Facilities and Installations. For example, Civil Engineers at NAVFAC and the Army Corps of Engineers would be included, but not deployable troops. However, construction related to Civil Works should not be considered a defense acquisition function.

(*There were conflicting comments regarding including or excluding basic (6.1 funded) and applied (6.2 funded) research as acquisition functions. Both will be included for the first iteration to determine where these functions are performed in order to make a more informed decision on whether to include or exclude basic and applied research from the second count*.)

Program Management - Work performed in this category is almost always primarily related to oversight of acquisition programs or management of the DoD acquisition system. However, some PM positions (obviously not System Program Office, PEO Office, and Weapons Systems Program Managers) may not always perform acquisition functions, as, for example, the HIV Program Manager.

Information Technology - For the purpose of defining the acquisition workforce, Information Technology means any equipment or interconnected system or subsystem. The workforce includes those responsible for the acquisition, management and oversight of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. IT includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. IT includes telecommunications and communications equipment and national security systems and interoperability between and among systems.

Industrial/Contract Property Management - Work performed in this area is primarily related to supporting contractual requirements involving the acquisition, control, management

use and disposition of Government owned property provided to Contractors. Duties in this area may also include performance of pre-award surveys, property management systems reviews and Plant Clearance operation.

Contracting and Procurement - Work performed in these categories almost always involves the procurement of supplies/services, selection of sources, negotiation/administration and award of contracts, lease of supplies/services, and similar activities. It can also involve the clerical and technical support for such activities as purchasing, contract negotiation, and contract administration.

Production - Work performed in this category involves acquisition-related manufacturing, production, and quality assurance. Acquisition-related manufacturing and production duties nearly always involve management of, or monitoring the manufacturing and production efforts of private sector contractors. Quality assurance includes such duties as evaluating DoD contractor compliance with the technical and quality requirements of acquisition contracts, performing analyses of contractor data, and performing quality engineering.

Contract Auditing -The basic nature of contract auditing makes this area an acquisition function. This functional area is comprised of the Contract Auditing (511) occupation which has been centralized in DCAA.

Business, Cost Estimating and Financial Management - Work performed in the category is primarily related to directly or indirectly supporting the previously listed acquisition functions when, and only when, these type of duties and functions are found in Group II organizations. The Business, Cost Estimating, and Financial Management area includes, but is not limited to, occupations such as, Budget Analysis, General Business & Industry, and Mathematics.

Management and Administration - Work performed in the category is primarily related to directly or indirectly supporting the previously listed acquisition functions when, and only when, these type of duties and functions are found in Group II organizations. The

Management and Administration area includes, but is not limited to, occupations such as, Budget Analysis, General Business & Industry, and Mathematics.

Logistics Planning and Management - Work performed in this area is primarily related to supporting acquisition programs, projects or activities, either directly or indirectly. The primary duties and functions of such occupations as Logistics Management Specialist (346) and Supply Program Manager (2003) found in this area, almost always involve acquisition activities. Property Disposal Officer (1104) and Property Disposal Clerical (1107) should also be considered as acquisition workforce when the disposal involves such things as major items or systems, hazardous materials, high cost items, or when the disposal involves complex management of contracts or money. However, such areas as retail supply control, warehousing and storage as well as operational and intermediate level maintenance are not considered to be acquisition functions. In addition, depot level maintenance is considered to be mostly non-acquisition, except for the planning and management functions associated with program management. Additional clarification is included below.

(*Based on comments from DUSD(Logistics), we will further refine the occupations and organizations as related to the Logistics area after completion of the initial iteration and after comparing the results with DAWIA logistics related positions*.)

Overall Logistics Process

Wholesale Logistics System

1. WEAPON SYSTEM ACQUISITION
2. Cataloging & Technical Data
3. Requirements Determination
4. Inventory Control
5. Procurement
6. Depot Maintenance
7. Warehousing
8. Transportation
9. Reutilization & Marketing

(Yes = to be counted as part of the Acquisition Workforce)
WEAPON SYSTEM ACQUISITION ÖÖÖÖÖÖÖÖ.. **YES**
Maintenance Concept
Parts Control

Provisioning
Engineering Changes
Weapon System Support
Technical Data
Drawings

CATALOGING ÖÖÖÖÖÖÖÖÖÖÖ.. **NO**
Item Identification
Item Entry (NSN Assignment)
Interchangeability
Item Reduction
Cataloging Management Data
Documentation Publication
Technical Data/Drawings

REQUIREMENTS DETERMINATION ÖÖÖÖÖÖÖÖ.. **YES**
War Material Requirements
Peacetime Requirements
Provisioning Requirements
Support Requirements
Demand Forecasting
Lead-time Factors
Safety Levels
Order Quantities
Stockage Pattern
Secure Decisions
Procurement Requests
Maintenance Requests
Disposal
Retail Redistribution
Asset Stratification and Budget

INVENTORY CONTROL ÖÖÖÖÖÖÖÖÖÖÖ.. **NO**

Maintain Stock Records
Accountability
Assets on Hand and Due in
Receipts/Issues/Returns
Adjustments
Requisition Processing
Customer Orders
Source Determination
Materiel Release
Shipment Discrepancies
Status Information
Demand Accumulation
Customer Liaison
Order Generation
Disposal
Retrograde/Redistribution

PROCUREMENT ÖÖÖÖÖÖÖÖ.. **YES**

Contracting
Solicitation
Negotiation
Bid Evaluation
Contract Administration
Contract & Modifications
Production Status
Quality Assurance
Acceptance & Delivery
Payment & Collection
Contract Closing

DEPOT MAINTENANCE ÖÖÖÖÖÖÖÖÖÖÖ.. **NO**

Maintenance Control
Plans & Scheduling
Quality Assurance
Training
Maintenance Management
Technical Documentation
Support Equipment
Calibration
Modifications
Contractor Support
Engineering Support
Production
Manufacturing
Overhaul
Repair & Modifications
Crash/Battle Damage
Serviceable Transfer

WAREHOUSING ÖÖÖÖÖÖÖÖÖÖÖ.. **NO**
Receipt
Receipt Processing
Discrepancy Reporting
Warehouse Depot Operations
Warehousing
Quality Assurance
Care & Prevention
Set/Kit Assembly/Disassembly
Physical Inventory
Physical Counts
Reconciliation
Causative Research
Location Survey
Issue
Materiel Release
Stock Selection
Confirmation/Denial
Shipment Preparation
Planning
Assembly/Packing/Crating
Consolidation/Documentation
Release to Transportation

TRANSPORTATION ÖÖÖÖÖÖÖÖÖÖÖ.. **NO**
Authorization
Movement Requirement
Determine Priority
Funding
Traffic Management
Shipment Planning
Mode Selection
Carrier Selection
Shipment Routing
Monitoring
Rerouting/Diversion
Movement
In CONUS
CONUS to Theater
In Theater
Theater to CONUS

REUTILIZATION & MARKETING ÖÖÖÖÖÖÖÖ.. **YES**
Item Visibility
Receipt Take-up
Accountability
Excess Reporting
Reutilization
Transfers
Donations

Reclamation
Sale
Demilitarization
Billing/Collecting
Scrap & Waste
Abandon/Destroy

Retail Logistics System **(NO for all)**

RETAIL SUPPLY CONTROL
Peacetime Requirements
Support Requirements
Demand Accumulation
Range & Depth Decisions
Local Purchase Requests
Requisitions on Wholesale
Maintenance Requests
Maintain Stock Records
Accountability
Assets on Hand/Due-in
Receipts/Issues/Returns
Adjustments
Reports of Survey
Requisition Processing
Backorder Release
Redistribution Orders
Customers Orders
Material Release
Status Information
Demand Accumulation

INTERMEDIATE MAINTENANCE
Maintenance Control
Plans & Scheduling
Quality Assurance
Training
Production
Inspection
Repair
Field Level Mods
Support Equipment
Maintenance
Calibration
Serviceables
Unserviceables Evacuation

STORAGE
Receipt
Serviceable and User Turn-ins
Discrepancy Reporting

Warehouse Depot Operations
Care & Prevention
Set/Kit Assembly/Disassembly
Physical Inventory
Physical Counts
Reconciliation
Causative Research
Location Survey
Issue
Materiel Release
Stock Selection
Confirmation/Denial
Transfer
Shipment Preparation
Planning
Assembly/Packing/Crating
Consolidation/Documentation
Release to Transportation

Acquisition Workforce Occupations

Category I Occupations
(Counted across DoD)

246 - Contractor Industrial Relations
340 - Program Management
346 - Logistics Management
511 - Auditing (DCAA only)
1102 - Contracting
1103 - Industrial Property Management
1104 - Property Disposal
1105 - Purchasing
1106 - Procurement Clerical & Assistance
1107 - Property Disposal Clerical
1150 - Industrial Specialist
1910 - Quality Assurance

Acquisition Workforce Occupations*
Category II Occupations**
(Counted in Group II organizations only)

150 - Geography
180 - Psychologist
301 - Administration and Program
334 - Computer Specialist
343 - Management/Program Analyst
391 - Telecommunications Specialist
392 - Communications Specialist
413 - Physiologist
501 - Financial Administration
505 - Financial Management
510 - Accounting
560 - Budget Analysis
801 - General Engineering
806 - Materials Engineering
810 - Civil Engineering
818 - Engineering Drafting
819 - Environmental Engineering
830 - Mechanical Engineering
840 - Nuclear Engineering
850 - Electrical Engineering
854 - Computer Engineering
855 - Electronics Engineering
858 - Biomedical Engineering
861 - Aerospace Engineering
871 - Naval Architecture
873 - Ship Surveying

880 - Agricultural Engineering
881 - Petroleum Engineering
890- Mining Engineering
892 - Ceramic Engineering
893 - Chemical Engineering
894 - Welding Engineering
896 - Industrial Engineering
1021 - Office Drafting
1101 - General Business & Industry
1130 - Public Utilities Specialist
1152 - Production Control
1160 - Financial Analysis
1301 - General Physical Science
1310 - Physics
1313 - Geophysics
1315 - Hydrology
1320 - Chemistry
1321 - Metallurgy
1330 - Space Science
1350 - Geology
1360 - Oceanography
1361 - Navigational Information
1370 - Cartography
1372 - Geodesy
1373 - Land Surveying
1510 - Actuary
1515 - Operations Research
1520 - Mathematics
1529 - Mathematical Statistician
1530 - Statistician
1550 - Computer Science
2003 - Supply Program Management
2150 - Transportation Operations

Notes:
* Please annotate those personnel that are performing acquisition functions in a temporary capacity. For example, some operators are in program offices or agencies for short tours and are not normally part of the acquisition workforce but require acquisition training and education to perform their job. They would be part of the acquisition workforce for only the duration of their tour in that job.
** Please annotate those personnel performing basic research (6.1 funded), applied research (6.2 funded), or both basic and applied research at least 50% of the time.

Group II Organizations*

Army
AMC
AAE
SDC
COE

Air Force
AFMC
ASAF(A)
PEO

Navy
CNR
NAVAIR
NAVSUP
NAVSEA
NAVFAC
PEO/DRPMs
SPAWAR
ASN(RDA)
USMC SYS CMD

Other DoD
USD(A&T)
DLA
USSOCOM(SOAC only)
BMDO
DISA
DCAA
TRICARE Support Office

*The above is a notional list based on the Group II List provided in the September 1997, Jefferson Solutions Report, "Review of the Department of Defense Acquisition Workforce." This is not a refined nor exhaustive list. Please examine it carefully to see if only certain groups of the above listed organizations should be included as well as if additional organizations should be included or some of those in the list should be excluded. Keep in mind that your final list is not to be constrained by the organizations listed in DoDI 5000.58. Also, please carefully consider the list of 'Acquisition Functions' provided, which expands the universe for consideration and goes beyond the scope of the DoDI 5000.58 organizational list. For example, certain sub-elements of DFAS should probably be included in your final listing along with sub-elements of DLA (vice all of DLA). Another example might be the inclusion of some personnel in operational commands whose primary job is to define operator requirements (requirements development function) and support program office Integrated Product Teams for systems acquisition. Comments were reviewed during the coordination process requesting that certain organizations be added to the list (i.e. ASD(C3I); Army Budget Office, Directorate of Investment; Army Medical Research Materiel Command; and Army Cost Economic Analysis Center). DACMs with oversight of these organizations will ensure they are included in the count and Group II organizations as appropriate. (Note: DIA, NIMA, & NSA, are still exempt by statute)

Acquisition Workforce Identification Refinement Summary

(Changes made to the Jefferson Solutions Report As of 23 March 1998)

- Developed a descriptive list of Acquisition Functions to be used as a guide to make the Acquisition Workforce determination as accurate as possible.

- Revised the list of Category I occupations (those counted across DoD). There are now 12 occupations in Category I. The nine Engineering occupations were moved to Category II. Also, OCC 511 is only counted at DCAA.

- Revised the list of Category II occupations (those counted only in Group II organizations). There are now 59 occupations in Category II. The Technicians were dropped and will be included as part of the Acquisition Support area to be counted by statistical means.

- Guidance provided to enable the Services and the 4th Estate to revise the Group II list of organizations (e.g., certain sub-elements of DFAS should probably be included in the final list).

- A Category III capability has been added (Red light, Green light) to allow flexibility to correct any discrepancies which may occur.

- Military officer and enlisted personnel will be counted as in the Acquisition Workforce if they are employed in a Group II organization.

- At the Army Corps of Engineers, any occupation coded as Civil Works will not be counted in the Acquisition Workforce.

- Acquisition Support personnel will be determined by statistical means and then added to the Acquisition Workforce personnel number computed by the Identification model. The Acquisition Support personnel will include administrative, clerical, technicians, etc.

General Schedule

April-May	First Iteration and Review
June-July	Second (Final) Iteration and Review
August - September	Staffing
October	Implementation

Appendix C

Summary of Inputs Received from the Initial Count of the DoD Acquisition Workforce (31 March 1998 data)

AWF Initial Count Inputs

Component	Personnel
Air Force	37,892
Navy/MC	55,562
Army(Draft)	46,070
DLA	18,068
DCAA	3,694
BMDO	185
SOCOM	78
TRICARE	76
DISA	549
OUSD(A&T)	385
DSMC	82
OASD(SO/LIC)	2
OASD(C31)	22
Def Comm (Cat I)	145
OUSD (Policy)	3
DSWA (Cat I)	51
DFAS (Cat I)	50
OSIA (Cat I)	24
DIA (Exempt)	0
Other (across DoD)	8,537
Total	**168,678**

Comparison of Count to DMDC Run

	Initial	8 May DMDC Run
Count		
Army (Draft)	46,070	39,860
Navy/MC	55,562	52,893
Air Force	37,892	31,420
DCAA	3,694	3,699
DLA	18,068	21,307

Navy Total AWF

	Cat I	Cat II	Cat III	Total
Civilians	11,204	33,534	3,711	48,449
Officers	0	1,529	2,004	3,533
Enlisted	0	3,580	0	3,580
Total	**11,204**	**38,643**	**5,715**	**55,562**

Navy AWF

Category I

OCC	Civilians
246	6
340	614
346	2,805
511	424
1102	3,991
1103	72
1104	20
1105	1,099
1106	828
1107	8
1150	277
1910	1,060
Total	**11,204**

Navy AWF

Category II

OCC	Civilians
180	96
301	1,255
334	2,794
343	2,553
391	154
392	12
413	5
501	167
505	70
510	391
560	953
801	2,441
806	188
810	661
818	9
819	774
830	3,551
840	92
850	759
854	315
855	7,763
858	3
861	1,060
871	523
873	8
881	1
892	6
893	175
894	13
896	295
1101	711
1130	4
1152	557
1160	1
1301	152
1310	1,208
1313	16
1315	7
1320	389
1321	49

1330	52
OCC	**Civilians**
1350	23
1360	105
1370	5
1371	1
1373	3
1515	450
1520	644
1529	10
1530	13
1550	1,385
2003	609
2150	60
Total	**33,534**

Navy GpII AWF (Civ)

	Cat I	Cat II	Cat III	Total
ASN(RDA)	23	39	3	65
OCNR	149	2,027	0	2,176
NAVAIR	1,787	7,814	698	10,299
NAVSUP	1,004	1,133	703	2,840
NAVSEA	1,759	14,296	176	16,231
NAVFAC	1,552	3,797	21	5,370
MARCOR	115	374	7	496
SSP	120	385	1	506
SPAWAR	405	3,368	134	3,907
NAVRESFOR	5	199	0	204
Total	**6,919**	**33,432**	**1,743**	**42,094**

Air Force Total AWF

	Cat I	Cat II	Cat III	Total
Civilians	11,128	9,687	4,566	25,381
Military	0	12,468	43	12,511
Total	**11,128**	**22,155**	**4,609**	**37,892**

AIR FORCE

GROUP I

(COUNTED ACROSS AF)

OCC SERIES	OCC SERIES TITLE	CIVILIANS
246	Contractor Industrial Relations	7
340	Program Management	218
346	Logistics Management	3,479
511	Auditing (DCAA only)	0
1102	Contracting	4,945
1103	Industrial Property Management	47
1104	Property Disposal	3
1105	Purchasing	428
1106	Procurement Clerical & Assistance	741
1107	Peopwery Disposal Clerical	3
1150	Industrial Specialist	76
1910	Quality Assurance	1,181
	TOTAL	**11,128**

AIR FORCE

GROUP II CIVILIANS

(COUNTED ONLY IN SPECIFIED ACQUISITION ORGANIZATIONS)

OCC SERIES	OCC SERIES TITLE	CIVILIANS
150	GEOGRAPHY	0
180	PSYCHOLOGIST	104
301	ADMINISTRATION AND PROGRAM	574
334	COMPUTER SPECIALIST	827
343	MANAGEMENT/PROGRAM ANALYST	635
391	TELECOMMUNICATIONS SPECIALIST	168
392	COMMUNICATIONS SPECIALIST	0
413	PHYSIOLOGIST	23
501	FINANCIAL ADMINISTRATION	678
505	FINANCIAL MANAGEMENT	13
510	ACCOUNTING	76
560	BUDGET ANALYSIS	360
801	GENERAL ENGINEERING	814
806	MATERIALS ENGINEER	214
810	CIVIL ENGINEERING	43
818	ENGINEERING DRAFTING	3
819	ENVIRONMENTAL ENGINEERING	67
830	MECHANICAL ENGINEERING	256
840	NUCLEAR ENGINEERING	3
850	ELECTRICAL ENGINEER	56
854	COMPUTER ENGINEERING	142
855	ELECTRICS ENGINEERING	2302
858	BIOMEDICAL ENGINEERING	6
861	AEROSPACE ENGINEERING	817
871	NAVAL ARCHITECTURE	0
873	SHIP SURVEYING	0
880	AGRICULTURAL ENGINEERING	0
881	PETROLEUM ENGINEERING	0
890	MINING ENGINEERING	0
892	OFFICE DRAFTING	2
893	GENERAL BUSINESS & INDUSTRY	25
894	WELDING ENGINEERING	0
896	INDUSTRIAL ENGINEERING	68
1020	OFFICE DRAFTING	0

AIR FORCE

GROUP II CIVILIANS

(COUNTED ONLY IN SPECIFIED ACQUISITION ORGANIZATIONS)

1101	GENERAL BUSINESS & INDUSTRY	512
1130	PUBLIC UTILITIES SPECIALIST	0
1152	PRODUCTION CONTROL	32
1160	FINANCIAL ANAYLSIS	0
1301	GENERAL PHYSICAL SCIENCE	118
1310	PHYSICS	247
1313	GEOPHYSICS	0
1315	HYDROLOGY	1
1320	CHEMISTRY	103
1321	METALLURGY	1
1330	SPACE SCIENCE	10
1350	GEOLOGY	0
1360	OCEANOGRAPHY	0
1361	NAVIGATIONAL INFORMATION	0
1370	CARTOGRAPHY	2
1372	GEODESY	0
1373	LAND SURVEYING	0
1510	ACTUARY	1
1515	OPERATIONS RESEARCH	96
1520	MATHEMATICS	70
1529	MATHEMATICAL STATISTICIAN	6
1530	STATISICIAN	1
1550	COMPUTER SCIENCE	152
2003	SUPPLY PROGRAM MANAGEMENT	54
2150	TRANSPORTATION OPERATIONS	5
	Total	**9,687**

AIR FORCE CATEGORY I

GROUP I CIVILIANS BY OCC SERIES AND DoDI 5000.58 ORGANIZATION*

SAF/AQ

OCC Series	
0246	7
0346	2
1102	21
1105	1
1106	2
1910	2
TOTAL	**35**

AFMC

OCC Series		
0340		5
0346		2383
1102		2812
1103		24
1104		2
1105		158
1106		492
1107		2
1150		72
1910		417
	TOTAL	**6367**

OTHER

OCC Series	
0340	213
0346	1094
1102	2112
1103	23
1104	1
1105	269
1106	247
1107	1
1150	4
1910	762
TOTAL	**4726**

GROUP II BY SUB CMD

AIR FORCE CATEGORY II

Sub Cmd	Civ	Officer	Enlist	Total
AEDC	110	57	40	207
AFDTC	498	57	542	1,223
AFFTC	831	442	1,693	2,966
AFOSR	44	23	5	72
AFRL	2,997	970	516	4,483
AMARC	91	4	0	95
ASC	1,892	967	258	3117
ESC	1,544	980	2,459	4,983
HQAFMC	1,095	468	311	1,874
HSC	109	65	193	367
JLSC	18	4	3	25
PEO	7	18	5	30
SAF/AQ	31	119	17	167
SMC	420	1,012	198	1,630
OC-ALC	0	110	53	163
OO-ALC	0	151	92	243
SA-ALC	0	122	45	167
SM-ALC	0	92	33	125
WR-ALC	0	154	64	218
TOTAL	**9,687**	**5,941**	**6,527**	**22,155**

Army Total AWF

	Cat I	Cat II	Cat III	Total
Civilians	13,940	32,130	(3,085)	46,070

Army AWF

Category I

OCC	Civilians
246	19
340	524
347	4,321
511	1,008
1102	5,004
1103	92
1104	27
1105	505
1106	825
1107	14
1150	231
1910	1,370
Total	**13,940**

Army AWF

Category II

OCC	Civilians
150	44
180	112
301	1,979
334	2,942
343	1,937
391	283
392	9
413	7
501	100
505	82
510	280
560	822
801	3,732
810	147
818	45
819	659
830	2,325
840	1
850	695
854	590
855	3,416
858	1
861	514
871	7
873	23
881	1
892	8
893	324
894	3
896	260

OCC	Civilians
1101	413
1152	328
1301	803
1310	384
1313	19
1315	42
1320	459
1321	31
1350	255
1360	27
1370	36
1515	761
1520	244
1529	23
1530	19
1550	287
2003	843
2101	37
2130	75
2150	1
Total	**32,130**

4th Estate AWF (Civilians) Inputs

	Cat I	Cat II	Cat III	Total
DLA	12,859	5,209	0	18,068
DCAA	3,694	0	0	3,694
OUSD (A&T)	48	174	126	549
BMDO	45	136	4	185
TRICARE	23	53	0	76
SOCOM(SALC)	33	35	10	78
DSMC	0	82	0	82
OASD(C3I)	0	22	0	22
OASD(SO/LIC)	1	0	1	2
Def Comm(Cat I)	145	0	0	145
DSWA(Cat I)	51	0	0	51
DFAS(Cat I)	50	0	0	50
OSIA (Cat I)	24	0	0	24
Totals	**17,224**	**6,046**	**144**	**23,414**

DEFENSE LOGISTICS AGENCY SUMMARY

DLA 912(a) Acquisition Workforce	Totals	HQ DLA 1/	DLA SA	DLSC	DSDC	DCMC	DAPSC	JLSC	DD07 Other 2
Summary Statistics									
Total Category I and Category II	**18068**	**190**	**22**	**6136**	**10**	**11630**	**51**	6	**23**
End Strength	**43388**	**805**	**290**	**24705**	**1071**	**13526**	**2225**	33	**613**
Total Excluded Positions	**25300**	**615**	**268**	**18589**	**1061**	**1996**	**2174**	27	**590**
Category I Occupations		**12859**	**129**	**22**	**3908**	**10**	**8710**	**51**	**6**	**23**
Contractor Industrial Relations	**246**	**0**							
Program Management	**340**	**12**		**1**	**4**	**1**	**6**			**0**
Logistics Management	**346**	**65**	**13**		**11**	**4**	**25**		**5**	**7**
Auditing (DCAA only)	**511**	**0**								
Contracting	**1102**	**4681**	**77**	**12**	**1944**	**4**	**2609**	**25**	**1**	**9**
Industrial Property Management	**1103**	**370**	**4**	**0**	**1**		**365**			
Property Disposal	**1104**	**626**	**8**	**2**	**604**			**6**		**6**
Purchasing	**1105**	**39**			**23**		**5**	**11**		
Procurement Clerical & Assistance	**1106**	**1515**			**559**	**1**	**949**	**5**		**1**
Property Disposal Clerical	**1107**	**323**			**307**		**14**	**2**		
Industrial Specialist	**1150**	**866**	**11**		**50**		**804**	**1**		
Quality Assurance	**1910**	**4362**	**16**	**7**	**405**		**3933**	**1**		
Category II Occupations	**Series**	**5209**	**61**	**0**	**2228**	**0**	**2920**	**0**	**0**	**0**
Psychologist	**180**	**0**								
Administration and Program	**301**	**571**	**2**		**480**		**89**			
Computer Specialist	**334**	**672**	**4**		**287**		**381**			
Management/Program Analyst	**343**	**841**	**22**		**317**		**502**			
Telecommunications Specialist	**391**	**36**	**0**		**25**		**11**			
Communications Specialist	**392**	**4**			**3**		**1**			
Financial Administration	**501**	**68**	**0**		**61**		**5**			
Financial Management	**505**	**5**	**0**		**4**		**1**			
Accounting	**510**	**41**	**0**		**36**		**5**			
Budget Analysis	**560**	**70**	**2**		**44**		**24**			
General Engineering	**801**	**328**	**9**		**72**		**247**			
Materials Engineering	**806**	**5**			**3**		**2**			
Civil Engineering	**810**	**11**			**10**		**1**			
Engineering Drafting	**818**	**0**			**0**					
Environmental Engineering	**819**	**8**			**8**					
Mechanical Engineering	**830**	**141**	**0**		**76**		**65**			
Nuclear Engineering	**840**	**5**					**5**			
Electrical Engineering	**850**	**13**	**0**		**6**		**7**			
Computer Engineering	**854**	**49**					**49**			
Electronics Engineering	**855**	**438**			**94**		**344**			
Biomedical Engineering	**858**	**6**			**6**					
Aerospace Engineering	**861**	**126**			**3**		**123**			
Ship Surveying	**873**	**0**			**0**					
Chemical Engineering	**893**	**11**			**11**					
Industrial Engineering	**896**	**175**	**4**		**11**		**160**			

General Business & Industry	**1101**	**1205**	**15**	**299**	**891**
Public Utilities Specialist	**1130**	**7**		**7**	
Production Control	**1152**	**8**		**8**	
General Physical Science	**1301**	**1**		**1**	
Physics	**1310**	**1**	**1**		
Chemistry	**1320**	**36**		**36**	
Cartography	**1370**	**0**		**0**	
Actuary	**1510**	**3**			**3**
Operations Research	**1515**	**22**	**1**	**21**	
Mathematical Statistician	**1529**	**2**	**1**		**1**
Statistician	**1530**	**2**		**2**	
Computer Science	**1550**	**0**			
Supply Program Management	**2003**	**299**	**0**	**297**	**2**
Transportation Operations	**2150**	**1**			**1**

1/ Includes D, CA, FO, GO, HQ, DLSC, HW CIO, CAC and DCMC-AC
2/ Includes BPRC, DMEA, DPECO, MSC (exclused DAU & DTIC)

Appendix D

Second (Final) Count Methodology

The attached USD(A&T) memorandum dated 20 November 1998, provides the guidance and methodology relevant to conducting the Second Count of the DoD Acquisition and Technology Workforce.

THE UNDERSECRETARY OF DEFENSE
3010 DEFENSE PENTAGON
WASHINGTON, DC 20301-3010

ACQUISITION AND TECHNOLOGY

20 NOV 1998

MEMORANDUM FOR DISTRIBUTION

SUBJECT: Modified Packard Acquisition and Technology Workforce Identification

On December 18, 1997, in response to the requirement contained in Section 912(b) of the National Defense Authorization Act Fiscal Year 1998, the Secretary of Defense informed Congress that beginning October 1, 1998, members of the acquisition workforce will be uniformly identified. The identification will be based on an updated versions of an approach developed by the 1986 President's Blue Ribbon Commission on Defense Management (Packard Commission). He also advised Congress that refinements will be made to the acquisition workforce identification model as it proceeds toward full implementation

Uniformly identifying the workforce using the modified Packard approach enhances the Department's ability to manage this critical asset and provides a more precise understanding of the activities and skills mix within the workforce.; It gives the Department the insight required to plan for the recruitment, retention, and requisite training and education of the workforce and has the agility to target specific segments of the workforce for career planning, training, and education in support of new acquisition reform initiatives and to identify the skills required for
the workforce in the 21st Century.

An Acquisition Workforce Identification Working Group was formed to facilitate the process across the Department and to make refinements to the model so that the workforce determination would be as consistent and verifiable as possible. It was agreed that there should be two counts to ensure the baseline acquisition workforce for Fiscal Year 1999 is as accurate as possible. To assist the Services and Agencies in conducting their initial count of workforce members, the Working Group developed a recommended list of acquisition functions along with templates of acquisition related occupations to be counted across the Department (Category I), in selected organizations (Category II), and for selected additions or deletions, in a separate listing (Category III). The tasking for this first count was sent on April 7, 1998, and the count was conducted from mid-April through early June with analysis of the results running through September.

The results of the first count have been reviewed and issues worked further to refine the templates. Attachment 1 provides a summary of the changes made based on lessons learned from the first count along with the process for implementing the count in DoD.

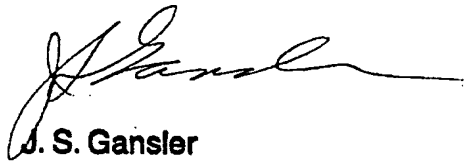
Attachment 2 provides new templates for the second and final count to baseline the workforce. Attachment 3 provides the updated functons used to help identify the workforce. Attachment 4 depicts the relationship between the old acquisition organization definition, the FY 98 National Defense Authorization Act Section 912a acquisition workforce definition, and the new modified Packard
acquisition and technology workforce definition.

Based an these attachments, request you conduct and provide the count of your acquisition and technology workforce. Provide all inputs, including, a breakout of your modified Packard workforce personel numbers, updated occupational lists (including a Category III listing of additions and deletions), and the refined Group IIA and IIB organizational lists to LTC Brandy Johnson, (703) 578-2762/fax 820-9753, within 30 days of the date of this letter. Extension will not be granted. In addtion, provide the name and phone number of your point of contact within the next ten days. Service Directors for Acquisition Career Management (DACMs) should collet the data to ensure consistency. This input will be considered as your coordination for the Fiscal Year 1999 workforce numbers using the modified Packard method.

Note that I have changed the name of the acquisition workforce to the acquisition and technology workforce in order to provide a more accurate description of the breadth of occupations and skills required to successfully accomplish this DoD acquisition mission from a life-cycle perspective, from the earliest phases of basic research to the logistical support and disposal of legacy systems. The workforce contains far more than just procurement personnel. It requires the integrated effort of contracting professionals, program managers, engineers, scientists, logisticians, and all the other occupational fields listed in the modified Packard methodology. Truly, this is a team effort and the title must reflect the Department's dedication to an integrated and efficient life-cycle approach for the acquisition of goods and services.

Because this modified Packard acquisition and technology workforce identification represents DoD's key acquisition and technology personnel, when Congressionally-directed workforce reductions go above programmed levels, I will work the Components to ensure reductions are taken to the maximum degree possible from tie acquisition and technology workforce support functions and related organizational overhead.

Your efforts to ensure proper implementation of the modified Packard method for identifying the acquisition and technology workforce are appreciated. The count will be updated annually during the first few years of implementation. Please contact LTC Johnson if you have any questions regarding the count or the working groups involved in implementing the modified Packard methodology.



J. S. Gansler

Attachments
As stated

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Navy Acquisition Executive
Air Force Acquisition Executive
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Army Director, Acquisition Career Management
Navy Director, Acquisition Career Management
Air Force Director, Acquisition Career Management

("Fourth Estate" Organizations)
Chairman of the Joint Chiefs of Staff
Under Secretary of Defense (Acquisition and Technology) 1/
Under Secretary of Defense (Policy)
Assistant Secretary of Defense (Special Operations/Low Intensity Conflict)
Assistant Secretary of Defense (Command, Control, Communications and Intelligence)
Inspector General of the Department of Defense
Commander-in-Chief, U.S. Special Operations Command
Director, Ballistics Missile Defense Organization
Director, Defense Advanced Research Projects Agency
Director, Defense Commissary Agency
Director, Defense Contract Audit Agency
Director, Defense Finance and Accounting Service
Director, Defense Information Systems Agency
Director, Defense Logistics Agency
Director, Defense Special Weapons Agency 2/
Director, On-Site Inspection Agency 2/
Director, American Forces Information Service
Director, Department of Defense Education Activity
Director, TRICARE Management Activity
Director, Washington Headquarters Services (Real Estate and Facilities)
Deputy Director, Acquisition Career Management (Fourth Estate)
President, Defense Acquisition University
Commandant, Defense Systems Management College
President, National Defense University
President, Uniformed Services University of the Health Sciences

cc:

USD(C)
USD(P&R)
ASD(LA)
General Counsel, DoD
Army Deputy Director, Acquisition Career Management
Air Force Deputy Director, Acquisition Career Management
Director, CAIR
Functional Board Chairs

("Fourth Estate" Organizations)
Director, Defense Intelligence Agency
Director, National Imagery and Mapping Agency
Director, National Security Agency/Central Security Service

NOTEs:

1/ Director for Administration, USD(A&T) is already on distribution.

2/ If the Defense Threat Reduction and Treaty Compliance Agency has been officially formed from the merger of DSWA and OSIA as of the date of memo release, then the Director of this new agency should be on distribution, in lieu of the Director, DSWA and Director, OSIA.

ATTACHMENT 1

Summary of changes/clarification based on lessons learned from the initial count and implementation process

Summary of Changes/Clarification Based on Lessons Learned from the Initial Count

- The acquisition workforce is now the acquisition and technology workforce based on the life-cycle, cradle-to-grave approach to accomplishing the DoD acquisition mission. Personnel performing pre-Milestone 0 work (per DoDD 5000.1) at Science and Technology (S&T) organizations are part of the workforce and will be counted in a new category, Category IIB.

- Revised the list of Category I occupations (those counted across DoD). There are now six occupations in Category I. Four occupations, namely Quality Assurance, 1910; Auditing, 511; Logistics Management, 346; and Property Disposal, 1104; formerly in Category I were moved to Category IIA. Procurement Clerical & Assistance (1106) has been dropped but may be added in Cat III when they are viewed by the organization as key acquisition personnel and not support personnel.

- The property disposal clerical, 1107, occupation has been dropped and will be included in the acquisition and technology support area to be computed statistically.

- Now two parts to Category II. Category IIA was previously Category II. Revised the list of Category IIA occupations (those counted only in Group IIA organizations). There are now 63 occupations in Category IIA, since the above 4 occupations were added. New Category IIB counts acquisition and technology personnel in S&T organizations and there is an associated list of Category IIB occupations and organizations. Since this is the first time we are using the Category IIB lists, we will finalize the occupations and organizations based on the results from the second count.

- The Category III capability, which had been added to allow flexibility to add DAWIA positions which were not captured in the Category I and II counts, or occupations/organizations not captured on the lists, should also be used to add all applicable enlisted positions to the modified Packard acquisition workforce.

- The Group IIA organizational listing is no longer considered notional. The attached listing represents all the Group IIA organizations (those at which Category IIA occupations will be counted). For example, DCAA is now considered to be a Group IIA organization.

- Only DAWIA and Category I Occupations are included for test organizations outside of Group II organizations since operational testing is usually done by operational personnel.

- NAVFAC and Army Corps of Engineers (USACE-military funded only) will be considered Group II organizations. The non-military funded (civil) activities will not be included, except for contract occupations, select engineer occupations with warrants, and their feeder group. USACE personnel are not counted if more than 50 percent of their work is non-military funded.

- The count should include all career military and civilian personnel in selected occupations, regardless of pay plan. This means we are counting all SES personnel and Political Appointees.

General Guidance

- For all organizations, DAWIA-coded positions and Category I occupations are always included in the key acquisition and technology workforce.

- Category III should be used to add anyone (regardless of occupation) performing acquisition functions not captured in Categories I or II. Be sure to include the Social Security Number (SSN) for each member added or deleted. However, if your Category III list is very long and you believe the Unit Identification code (for the Services) or organizational code (Fourth Estate) would easily capture everyone being added or deleted from the Defense Management Data Center's (DMDC) database, please contact Lt Col Johnson (703-697-8080) or Nat Cavallini (703-404-3434). We will work with you and DMDC to make sure DMDC can perform the adds and deletes in the manner you are proposing other than listing all the SSNs.

- For Group II, count all military officers. Also, Fourth Estate must count their military officers and provide SSNs so the Services can insure we are not double-counting the DAWIA personnel. We really do need the SSNs. Add other officers in Category III.

- We are using the same March 31,1998, baseline date used in the first count.

- Please remember to capture all remaining Defense Acquisition Workforce Improvement Act (DAWIA)-coded positions, that is, those not picked up in either Category I or Category II, by adding them to the workforce using Category III capability. It is imperative that you ensure proper DAWIA coding for all appropriate positions so that the outliers can be accurately added to the workforce.

Implementation Process

1. The Fiscal Year 1999 key acquisition and technology workforce baseline will be used to determine what education, training, and career development, if any, are required for workforce members currently not identified as DAWIA. A working group with representation from the Services, Fourth Estate, Functional Boards, and Defense Acquisition University has been formed to facilitate requirements development and implementation. Implementation of the approved requirements will begin in Fiscal Year 2000. Your support will be required to help us identify appropriate education, training, and career development requirements. This process will also be used to provide a reasonableness check to the count. If it is determined that any personnel were misidentified as being a member of the key acquisition and technology workforce, the count will be adjusted accordingly and updated in the first annual report.

2. We are also forming a working group to ensure the baseline workforce count is implemented into the Department's overall planning, programming, and budgeting system (PPBS) process. This working group is being co-chaired by personnel from the office of the Director, Program Analysis & Evaluation, and Under Secretary of Defense (Personnel and Readiness). This subsequent group is designed to capture the total resources (manpower and dollars) required to perform DoD's acquisition and technology business, to include not only the workforce described above, but their associated support personnel and other related

organizational overhead. Again, if this effort reveals that certain personnel were misidentified as acquisition and technology workforce members, the count will be adjusted for the first annual report.

ATTACHMENT 2

New templates for the second and final count to baseline the fiscal year 1999 acquisition and technology workforce

Modified Packard Acquisition and Technology Workforce Occupations
Category I Occupations
(Counted across DoD)

246 - Contractor Industrial Relations
340 - Program Management
1102 - Contracting
1103 - Industrial Property Management
1105 - Purchasing
1150 - Industrial Specialist

Modified Packard Acquisition and Technology Workforce Occupations
Category IIA Occupations
(Counted in Group IIA organizations only)

150 - Geography
180 - Psychologist
301 - Administration and Program
334 - Computer Specialist
343 - Management/ Program Analyst
346 - Logistics Management
391 - Telecommunications Specialist
392 - Communications Specialist
413 - Physiologist
501 - Financial Administration
505 - Financial Management
510 - Accounting
511 - Auditing
560 - Budget Analysis
801 - General Engineering
806 - Materials Engineering
810 - Civil Engineering
818 - Engineering Drafting
819 - Environmental Engineering
830 - Mechanical Engineering
840 - Nuclear Engineering
850 - Electrical Engineering
854 - Computer Engineering
855 - Electronics Engineering
858 - Biomedical Engineering
861 - Aerospace Engineering
871 - Naval Architecture
873 - Ship Surveying
880 - Mining Engineering
890 - Agricultural Engineering
881 - Petroleum Engineering
892 - Ceramic Engineering
893 - Chemical Engineering
894 - Welding Engineering
896 - Industrial Engineering
1021 - Office Drafting
1101 - General Business & Industry
1104- Property Disposal
1130 - Public Utilities Specialist
1152 - Production Control
1160 - Financial Analyst
1301 - General Physical Science
1310 - Physics
1313 - Geophysics

1315 - Hydrology
1320 - Chemistry
1321 - Metallurgy
1330 - Space Science
1350 - Geology
1360 - Oceanography
1361 - Navigational Information
1370 - Cartography
1372 - Geodesy
1373 - Land Surveying
1510 - Actuary
1515 - Operations Research
1520 - Mathematics
1529 - Mathematical Statistician
1530 - Statistician
1550 - Computer Science
1910 - Quality Assurance
2003 - Supply Program Management
2150 - Transportation Operations

Modified Packard Acquisition and Technology Workforce
Group IIA Organizations*
(Those organizations having acquisition and technology as their primary mission)

Army
AAE
AMC
ASA(RDA)
USACE (military-funded)
USAMRMC
USASMDC

Air Force
AFMC
ASAF(A)
PEO

Navy
NAVAIR
NAVSUP
NAVSEA
NAVFAC
PEO/DRPMs
SPAWAR
ASN(RDA)
USMC SYS CMD

Other DoD
USD(A&T)
DLA
USSOCOM(SOAC only)
BMDO
DISA
DCAA
TRICARE Support Office

* Only applicable UICs (Unit Identification Codes) or organizational codes (Fourth Estate) within these organizations are included in the workforce count.

All of the science and technology organizations are to be considered as a Group IIB organization, including the medical research and development communities.

Please note that DIA, NIMA, and NSA are still exempt from being counted due to an existing statute and are therefore not included in the FY 1999 baseline count. However, our plan is to investigate ways for including their personnel in the FY 2000 baseline that will not violate the intent of the statute and is fully coordinated with these organizations.

Modified Packard Acquisition and Technology Workforce Occupations
Category IIB (S&T) Occupations*
(Counted in Group IIB (S&T) Organizations only)

SCIENCE AND ENGINEERING OCCUPATIONS AT S&T ORGANIZATIONS

150 - Geography
180 - Psychologist
401 - General Biological Science
403 - Microbiology
408 - Ecology
413 - Physiologist
414 - Entomology
430 - Botany
434 - Plant Pathology
435 - Plant Physiology
440 - Genetics
454 - Range Conservation
457 - Soil Conservation
460 - Forestry
470 - Soil Science
471 - Agronomy
480 - eneral Fish & Wildlife Admin.
482 - Fishery Biology
486 - Wildlife Biology
487 - Animal Science
601 - General Health Science
602 - Medical Officer
610 - Nurse
630 - Dietitian & Nutritionist
644 - Medical Technologist
660 - Pharmacist
662 - Optometrist
665 - Speech Pathology & Audiology
690 - Industrial Hygiene
701 - Veterinary Medical Science
801 - General Engineering
803 - Safety Engineering
804 - Fire Prevention Engineering
806 - Materials Engineering
807 - Landscape Architecture
808 - Architecture
810 - Civil Engineering
818 - Engineering Drafting
819 - Environmental Engineering
830 - Mechanical Engineering
840 - Nuclear Engineering
850 - Electrical Engineering
854 - Computer Engineering

855 - Electronics Engineering
858 - Biomedical Engineering
861 - Aerospace Engineering
871 - Naval Architecture
890 - Agricultural Engineering
881 - Petroleum Engineering
892 - Ceramic Engineering
893 - Chemical Engineering
894 - Welding Engineering
896 - Industrial Engineering
1301 - General Physical Science
1306 - Health Physics
1310 - Physics
1313 - Geophysics
1315 - Hydrology
1320 - Chemistry
1321 - Metallurgy
1330 - Space Science
1340 - Meteorology
1350 - Geology
1360 - Oceanography
1370 - Cartography
1372 - Geodesy
1373 - Land Surveying
1380 - Forest Products Technology
1382 - Food Technology
1384 - Textile Technology
1386 - Photographic Technology
1515 - Operations Research
1520 - Mathematics
1529 - Mathematical Statistician
1530 - Statistician
1550 - Computer Science

OTHER OCCUPATIONS AT S&T ORGANIZATIONS**

301 - Administration and Program
334 - Computer Specialist
343 - Management/ Program Analyst
346 - Logistics Management
391 - Telecommunications Specialist
392 - Communications Specialist
501 - Financial Administration
505 - Financial Management
510 - Accounting
511 - Auditing
560 - Budget Analysis
873 - Ship Surveying
1021 - Office Drafting
1101 - General Business & Industry

1104- Property Disposal
1130 - Public Utilities Specialist
1152 - Production Control
1160 - Financial Analyst
1361 - Navigational Information
1510 - Actuary
1910 - Quality Assurance
2003 - Supply Program Management
2150 - Transportation Operations

***** These occupations have been recommended by the S&T community as a first cut. Based on the count results, we will finalize this list for reporting purposes. There will not be another count to baseline FY 1999 workforce personnel. Other changes required will be captured in the FY 2000 baseline. Occupations not covered by this list should be added to Category III.

****** These occupations are based on other occupations that are part of the acquisition and technology workforce which may or may not be present in S&T organizations just as they are in the Group IIA list. However, where appropriate, S&T organizations are to count these individuals and provide them in this secondary S&T occupational grouping as opposed to adding them to Category III. Again, whenever an individual should be counted but does not fall under any occupation listed in Category IIB, please add that individual to Category III. This list will also be finalized based on the counting results.

Modified Packard Acquisition and Technology Workforce
Group IIB Organizations*
(Those organizations having S&T as their primary mission)

Army
ARI
ARL
ARO

Air Force
AFOSR
AFRL

Navy
ONR
NRL

Other DoD*
DARPA
DTRA(DSWA)
Service Warfare Centers**

*All of the science and technology organizations are to be considered as a Group IIB organization, including the medical research and development communities. Services will add the appropriate medical research organizations and other S&T organizations as part of the count. The listed organizations have been recommended as a first cut and will be finalized as part of the count. Please note that BMDO is considered as Category IIA for the count based on their acquisition activities.

**These organizations are not strictly S&T but do have personnel that are spending 50 percent or more of their time performing S&T (6.1-6.3 funded) work and will be counted as part of Category IIB.

Modified Packard Acquisition and Technology Workforce Occupations
Category III
(Counted across DoD)

This category is to be used for:

1. Adding military officers and civilian personnel who are not covered by the previous categories (occupations or organizations) that are key acquisition and technology personnel.

2. Deleting military officers and civilian personnel from the previous categories (occupations or organizations) that are not key acquisition and technology personnel.

3. Adding enlisted personnel who are key acquisition and technology personnel.

4. Adding all DAWIA personnel (*all* military and civilian) not covered by the previous categories.

5. When adding or deleting from Category II, please state whether the addition or deletion is for Category IIA or IIB.

6. All organizations not listed in previous categories are to use this category for listing their key acquisition and technology personnel. (Guidance provided in the functional listing.)

7. When listing civilians, please ensure the occupational codes are included.

8. Include SSANs unless previously agreed upon per the directions in the Attachment 1 General Guidance.

ATTACHMENT 3

Acquisition and technology workforce functional description

ACQUISITION AND TECHNOLOGY WORKFORCE FUNCTIONAL DESCRIPTION

The Acquisition Workforce Identification Working Group recommends that the following functions be included to help identify the workforce from a life-cycle, cradle-to-grave perspective. These recommended functions apply to all DoD organizations, including such areas as strategic weapons systems, tactical weapons systems, C4I systems, health systems, automated information systems, among others.

The DoD acquisition and technology activities described below (to include all of the comm-computer career field) apply to information technologies (IT) and national security systems acquisition.

The workforce functions also include the planning and development of requirements, policy formulation, oversight and classroom instruction when such activities are primarily dedicated to one or more of the functions described below.

The occupations listed below are for DoD civilians. However, equivalent military officer and enlisted personnel are also considered to be in the workforce.

The acquisition and technology workforce is divided into two parts: the key acquisition and technology workforce and the support acquisition and technology workforce. Please note that the personnel we are counting are key acquisition and technology workforce professionals and not other DoD professionals performing acquisition and technology workforce support functions. Support personnel are identified as other professionals in Group II and DoDI 5000.58 organizations not considered as key acquisition and technology workforce professionals, administrative and clerical, and other related organizational overhead such as blue collar workers (to include, but not limited to, Wage Board personnel employed in such positions as electricians, plumbers, maintenance mechanics, motor vehicle operators, and like positions) and base operating support personnel (to include, but not limited to, security police, chaplains, firefighters, computer operations personnel, general education personnel, recreation personnel, public affairs personnel, doctors, nurses, housing management personnel, communications management personnel.)

Functions

Requirements Development, Systems Planning, Research, Development, Testing, Evaluation, and Science & Engineering - Work performed in these categories is almost always primarily related to acquisition and technology programs, projects or activities. The primary duties and functions of the scientists and engineers performing basic and applied research and exploratory development, and others performing pre-Milestone 0 work as defined by DoDD 5000.1, almost always directly or indirectly support acquisition and technology or acquisition-related efforts, especially when found in Group II organizations. In addition, their duties normally require them to perform work that relates to the acquisition of services and products for these areas or the design, development, fabrication, developmental test, modification, etc., of systems or system components. This area would also include services, engineering, and construction for facilities and installations. For example, civil engineers at NAVFAC and the Army Corps of Engineers would be included, but not deployable troops. However, construction related to civil works should not be considered a defense acquisition or technology function, except for 1102s in Category I occupations and engineers with warrants. Within the test function, personnel performing developmental test and evaluation are included in the workforce. However, operational testing will not be considered as an acquisition and technology function with respect to the workforce count because in general, personnel performing operational testing are assigned to operational commands and their primary duties support operations, not acquisition and technology.

Program Management - Work performed in this category is almost always primarily related to oversight of programs or management of the DoD acquisition system. However, some PM positions (obviously not System Program Office, PEO Office, and Weapons Systems Program Managers) may not always perform acquisition and technology functions, as, for example, the HIV Program Manager.

Information Technology - For the purpose of defining the workforce, Information Technology means any equipment or interconnected system or subsystem. The workforce includes those responsible for the technology, acquisition, management and oversight of equipment, that is used in the automatic acquisition, storage, manipulation, management, movement, control, display, switching, interchange, transmission, or reception of data or information. IT includes computers, ancillary equipment, software, firmware and similar procedures, services (including support services), and related resources. IT includes

telecommunications and communications equipment and national security systems and interoperability between and among systems.

Industrial/Contract Property Management - Work performed in this area is primarily related to supporting contractual requirements involving the acquisition, control, management use and disposition of Government-owned property provided to **c**ontractors. Duties in this area may also include performance of pre-award surveys, property management systems reviews and plant clearance operations.

Contracting and Procurement - Work performed in these categories almost always involves the procurement of supplies/services, selection of sources, negotiation/administration and award of contracts, lease of supplies/services, and similar activities.

Production - Work performed in this category involves acquisition-related manufacturing, production, and quality assurance. Acquisition-related manufacturing and production duties nearly always involve management of, or monitoring the manufacturing and production efforts of private sector contractors. Quality assurance includes such duties as evaluating DoD contractor compliance with the technical and quality requirements of acquisition contracts, performing analyses of contractor data, and performing quality engineering.

Contract Auditing - The basic nature of contract auditing makes this area an acquisition function. This functional area is comprised of the **c**ontract **a**uditing (511) occupation.

Business, Cost Estimating and Financial Management, and Management and Administration - Work performed in this category is primarily related to personnel performing work for the listed acquisition and technology functions when, and only when, these type of duties and functions are found in Group II organizations. This area includes, but is not limited to, occupations such as, budget analysis, management analysis, program analysis, general business administration and industry, and mathematics. (This area is slightly broader than the BCEFM Functional Board and is not meant to be a one-to-one correlation with it.)

Logistics Planning and Management - Work performed in this area is primarily related to supporting acquisition programs, projects or activities, either directly or indirectly. The primary duties and functions of such occupations as Logistics Management Specialist (346)

and Supply Program Manager (2003) found in this area, almost always involve acquisition activities (exceptions are those personnel that are spending more than fifty 50 percent of their time involved in supporting existing hardware programs or functions that are primarily in a local support, training or operational logistical support role.) Property Disposal Officers (1104) should only be considered as key acquisition and technology workforce professionals when they are in key management positions and manage the disposal activity of major items or systems, foreign military sales, hazardous materials, high cost items, or complex contracts or money. In addition, such areas as retail supply control, warehousing and storage as well as operational and intermediate level maintenance are not considered to be acquisition and technology functions since they primarily support operations. In addition, depot level maintenance is considered to be mostly non-acquisition, except for the planning and management functions associated with program management, since they are primarily operational functions**.** More clarification is included below. (Please note that the 'yes' means this is considered an acquisition and technology workforce function. The 'no' indicates this is primarily related to operations and therefore not considered as any part of the acquisition and technology workforce.)

Overall Logistics Process

Wholesale Logistics System

1. WEAPON SYSTEM ACQUISITION
2. Cataloging & Technical Data
3. Requirements Determination
4. Inventory Control
5. Procurement
6. Depot Maintenance
7. Warehousing
8. Transportation
9. Reutilization & Marketing

(Yes = to be counted as part of the Acquisition Workforce)

WEAPON SYSTEM ACQUISITION **YES**

Maintenance Concept
Parts Control
Provisioning
Engineering Changes

Weapon System Support
Technical Data
Drawings

CATALOGING **NO**

Item Identification
Item Entry (NSN Assignment)
Interchangeability
Item Reduction
Cataloging Management Data
Documentation Publication
Technical Data/Drawings

REQUIREMENTS DETERMINATION **YES**

War Material Requirements
Peacetime Requirements
Provisioning Requirements
Support Requirements
Demand Forecasting
Leadtime Factors
Safety Levels
Order Quantities
Stockage Pattern
Secure Decisions
Procurement Requests
Maintenance Requests
Disposal
Retail Redistribution
Asset Stratification and Budget

INVENTORY CONTROL **NO**

Maintain Stock Records
Accountability
Assets on Hand and Due in
Receipts/Issues/Returns
Adjustments
Requisition Processing
Customer Orders
Source Determination
Materiel Release
Shipment Discrepancies
Status Information
Demand Accumulation
Customer Liaison
Order Generation
Disposal
Retrograde/Redistribution

PROCUREMENT **YES**

Contracting
Solicitation
Negotiation
Bid Evaluation
Contract Administration
Contract & Modifications
Production Status
Quality Assurance
Acceptance & Delivery
Payment & Collection
Contract Closing

DEPOT MAINTENANCE **NO**

Maintenance Control
Plans & Scheduling
Quality Assurance
Training
Maintenance Management
Technical Documentation
Support Equipment
Calibration
Modifications
Contractor Support
Engineering Support
Production
Manufacturing
Overhaul
Repair & Modifications
Crash/Battle Damage
Serviceable Transfer

WAREHOUSING **NO**

Receipt
Receipt Processing
Discrepancy Reporting
Warehouse Depot Operations
Warehousing
Quality Assurance
Care & Prevention
Set/Kit Assembly/Disassembly
Physical Inventory
Physical Counts
Reconciliation
Causative Research
Location Survey
Issue
Materiel Release
Stock Selection

Confirmation/Denial
Shipment Preparation
Planning
Assembly/Packing/Crating
Consolidation/Documentation
Release to Transportation

TRANSPORTATION **NO**

Authorization
Movement Requirement
Determine Priority
Funding
Traffic Management
Shipment Planning
Mode Selection
Carrier Selection
Shipment Routing
Monitoring
Rerouting/Diversion
Movement
In CONUS
CONUS to Theater
In Theater
Theater to CONUS

REUTILIZATION & MARKETING **Yes for personnel in management positions**

Item Visibility
Receipt Take-up
Accountability
Excess Reporting
Reutilization
Transfers
Donations
Reclamation
Sale
Demilitarization
Billing/Collecting
Scrap & Waste
Abandon/Destroy

RETAIL LOGISTICS SYSTEM **(NO for all listed below)**

RETAIL SUPPLY CONTROL
Peacetime Requirements
Support Requirements
Demand Accumulation
Range & Depth Decisions
Local Purchase Requests

Requisitions on Wholesale
Maintenance Requests
Maintain Stock Records
Accountability
Assets on Hand/Due-in
Receipts/Issues/Returns
Adjustments
Reports of Survey
Requisition Processing
Backorder Release
Redistribution Orders
Customers Orders
Material Release
Status Information
Demand Accumulation

INTERMEDIATE MAINTENANCE
Maintenance Control
Plans & Scheduling
Quality Assurance
Training
Production
Inspection
Repair
Field Level Mods
Support Equipment
Maintenance
Calibration
Serviceables
Unserviceables Evacuation

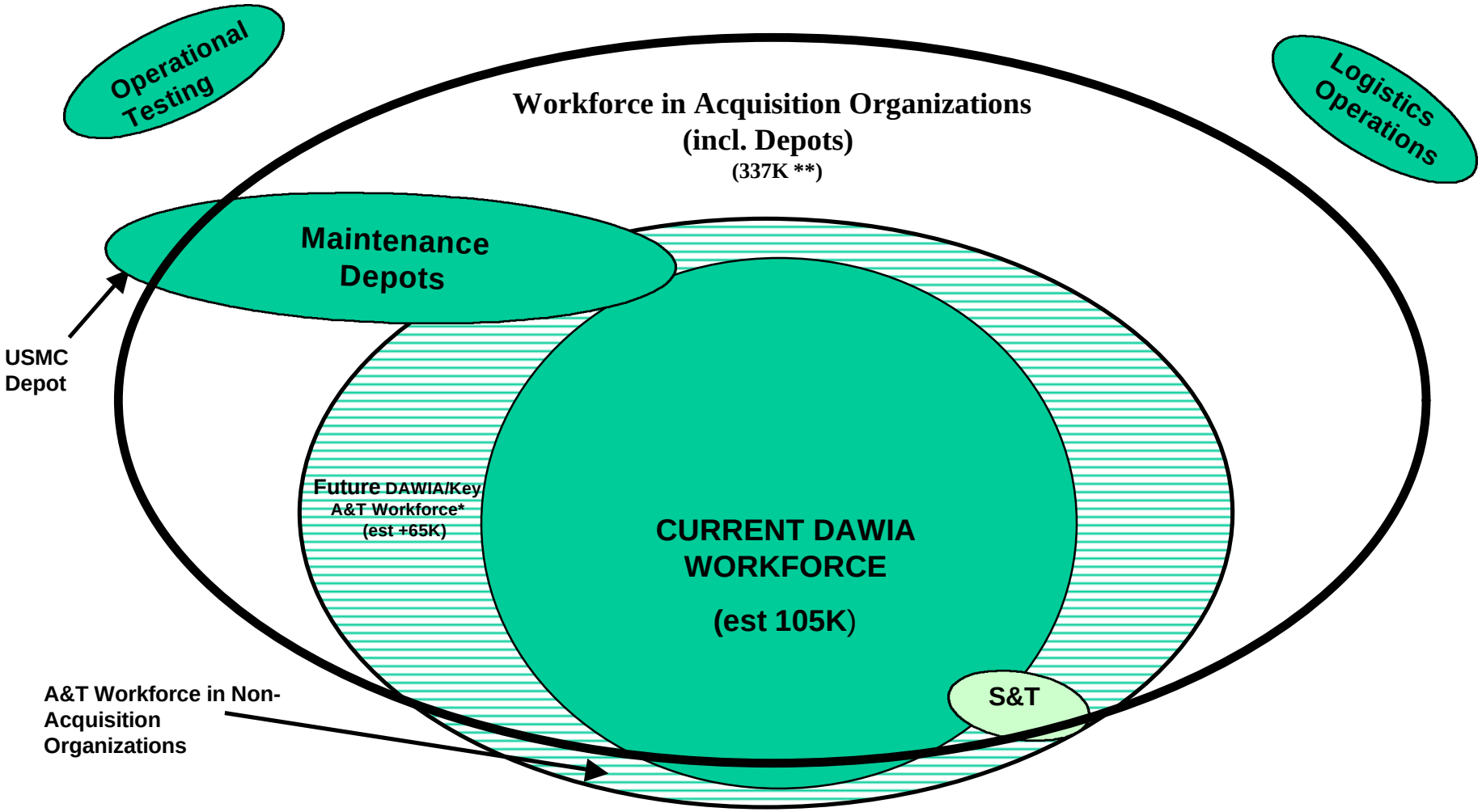
STORAGE
Receipt
Serviceable and User Turn-ins
Discrepancy Reporting
Warehouse Depot Operations
Care & Prevention
Set/Kit Assembly/Disassembly
Physical Inventory
Physical Counts
Reconciliation
Causative Research
Location Survey
Issue
Materiel Release
Stock Selection
Confirmation/Denial
Transfer
Shipment Preparation
Planning

Assembly/Packing/Crating
Consolidation/Documentation
Release to Transportation

ATTACHMENT 4

Relationship between the old acquisition organization definition, the FY 98 National Defense Authorization Act Section 912a Acqusition Workforce Definition, and the new Modified Packard Acquisition and Technology Workforce Definition

Acquisition Workforce: Relationships



* Training requirements for future DAWIA Workforce: TBD

** Section 912(a) Acquisition Organizations plus Depots

Appendix E

Second (Final) Count Results

(Based on USD(A&T) memo dated 20 Nov 1998, which uses 31 March 1998, as the baseline date for data)

DoD Key Acquisition and Technology Workforce (A&TWF)
Final Count Summary Data*
(Based on USD(A&T) memo dated 20 Nov 1998, which
uses 31 March 1998, as the baseline date for data)

Table of Contents

*Note: Since it is easy to take numbers out of context, please be sure that any reproduction or presentation of the data contained in this appendix is prefaced with appropriate reminders about the nature of the numbers, as discussed in the body of this report, and also in this appendix. For example, Tabs G and H provide specific information concerning DMDC special programming fixes and Service Unit Identification Code usage, which must be considered when presenting these numbers.

Tab A
Occupational Series with Titles

Occupational Series with Titles

Series	Title
150	Geography
180	Psychologist
246	Contractor Industrial Relations
301	Administration & Program
334	Computer Specialist
340	Program Management
343	Management/Program Analyst
346	Logistics Management
391	Telecommunications Specialist
392	Communications Specialist
401	General Biological Science
403	Microbiology
413	Physiologist
471	Agronomy
501	Financial Administration
505	Financial Management
510	Accounting
511	Auditing
560	Budget Analysis
690	Industrial Hygiene
801	General Engineering
803	Safety Engineering
804	Fire Prevention Engineering
806	Materials Engineering
808	Architecture
810	Civil Engineering
818	Engineering Drafting
819	Environmental Engineering
830	Mechanical Engineering
840	Nuclear Engineering
850	Electrical Engineering
854	Computer Engineering
855	Electronics Engineering
858	Biomedical Engineering
861	Aerospace Engineering
871	Naval Architecture
873	Ship Surveying
880	Mining Engineering
881	Petroleum Engineering
890	Agricultural Engineering
892	Ceramic Engineering
893	Chemical Engineering
894	Welding Engineering
896	Industrial Engineering
1021	Office Drafting

1101	General Business & Industry
1102	Contracting
1103	Industrial Property Management
1104	Property Disposal
1105	Purchasing

Occupational Series with Titles (Cont.)

1130	Public Utilities Specialist
1150	Industrial Specialist
1152	Production Control
1160	Financial Analyst
1301	General Physical Science
1306	Health Physics
1310	Physics
1313	Geophysics
1315	Hydrology
1320	Chemistry
1321	Metallurgy
1330	Space Science
1340	Meteorology
1350	Geology
1360	Oceanography
1361	Navigational Information
1370	Cartography
1372	Geodesy
1373	Land Surveying
1386	Photographic Technology
1510	Actuary
1515	Operations Research
1520	Mathematics
1529	Mathematical Statistician
1530	Statistician
1550	Computer Science
1910	Quality Assurance
2003	Supply Program Management
2150	Transportation Operations

Engineers (all 8xx OCCs)
Scientists (all 13xx & 4 xx OCCs)
Contracting (1102)
Purchasing (1105)
Business & Industry
(246, 1101, 1103, 1104, 1130, 1150, 1152 & 1910)
Math/Statistics (all 15xx OCCs, except 1550)
Admin. & Programs (301)
Management (340, 343 & 346)
Comm/Computers (334, 391, 392 & 1550)
Financial Management (1160 & all 5xx OCCs, except 511)
Auditing (511)
Supply Program Mgmt (2003)
Misc (Other Civilian OCCs Remaining)

Tab B
DoD Key Acquisition and Technology Workforce
Final Count Overview

DoD Summary Data
Key Acquisition and Technology Workforce (A&TWF)
(Based on USD(A&T) memo dated 20 Nov 98, which
uses 31 March 1998, as the baseline date for data)

By Occupation*

Engineers	44,117
(Electronics Engineers	15,833)
(General Engineers	7,303)
(Aerospace Engineers	3,214)
(Mechanical Engineers	6,382)
(Civil Engineers	2,800)
Management	15,509
Contracting	19,387
Comm/Computers	9,370
Financial Mgmt.	3,618
Business & Industry	12,989
Scientists	4,476
Admin & Programs	5,116
Auditing	3,692
Proc. Asst.	2,650
Math. & Statistics	2,400
Purchasing	2,158
Supply Prog. Mgmt.	1,753
Inventory Mgmt.	944
Equip. Spec.	858
Gen. Supply	326
Misc.	3,698
Total Civilians	33,061
Total Military	16,378
Total DoD A&TWF	149,439

*Note: For all the Occupational Summaries, the occupations in the Category III Sections are included under their appropriate occupations.

DoD Key A&TWF (Cont.)

By Category

Category I*	25,567	
Category IIA	85,504	
Category IIB**	8,789	
(Cat IIB S&E	7,865)	
(Cat IIB Other	924)	
Category III***	13,201	
(net adds)		
Total Civilians		133,061
Total Military****	16,378	
Total DoD A&TWF	149,439	

*Note: No Category I Deletes are allowed. However, a review of occupation 340, Program Management, for possible shift to Category II will be conducted in the near future, for implementation in the FY00 refined Packard algorithm. The Air Force and the Army were in favor of this change after they conducted their Final Count, but the Navy and Fourth Estate did not have time to review this possible change.

**Note: Category IIB, Scientists and Engineers (S&E), identifies the Science and Technology (S&T) professionals designated as part of the DoD key Acquisition and Technology Workforce (A&TWF). Category IIB, Other, identifies the non-S&E professionals at the S&T organizations.

***Note: In Category III, all encumbered DAWIA outlier positions are counted. Thus, between Categories I and III, even if no input is received from non-Group II organizations (e.g., NDU/DAU), the positions that should be counted in these organizations are captured. In addition, over 90% of the Category III Adds are DAWIA.

****Note: The Working Group felt that it was more accurate to count the Military Officers based on the position and organization they were in, rather than counting them by occupational specialty, as was done for civilians.

DoD Key A&TWF (Cont.)

By Organization*

Army	42,365
Navy	49,683
Air Force	33,421
Fourth Estate	23,970
Total DoD A&TWF	149,439

* Note: The Acquisition Workforce Identification Working Group devoted most of their time to refining Army, Navy/USMC, Air Force, Defense Logistics Agency (DLA), Defense Contract Audit Agency (DCAA), and BMDO numbers, which comprise about 99% of the total DoD Key Acquisition and Technology Workforce (A&TWF). Futher effort will be expended in the near future to refine the smaller Agencies databases relevant to DMDC's databases. However, it should be noted that there are no problems with application of the refined Packard algorithm. Some minor differences (less than 1%) exist between the Services/Agencies data call inputs and the independent calculations done by DMDC. These are due to database cleanup issues, that are ongoing, and do not impact the validity of the methodology. It should also be noted that DMDC's ability to nearly replicate Component count data, and not just validate it, has proven to be an invaluable outcome of the refinement process.

DoD Key A&TWF (Cont.)

Occupations by Category

Category I

Series	Number
246	26
340	1407
1102	18,981
1103	571
1105	2,158
1150	1,445
Other 4th Est. (Mainly Non-Group II)	979
Cat I Total	25,567

Category IIA

Series	Number
150	28
180	139
301	4,647
334	6,248
343	6,261
346	6,598
391	629
392	47
413	43
501	929
505	73
510	675
511	3,692
560	1,695
801	6,766
806	198
810	2,466
818	30
819	1,243
830	5,706
840	100
850	1,178
854	1,018
855	12,946
858	17
861	2,198
871	469
873	23
893	476

Occupations by Category (Cont.)
Category IIA (Cont.)

896	773
8xx	153
1101	2,981
1104	624
1130	14
1152	549
1301	672
1310	752
1313	14
1315	11
1320	650
1321	40
1350	129
1360	25
1370	21
1515	1,242
1520	769
1529	37
1530	29
1550	1,535
1910	5,724
2003	1,733
2150	32
Other	457
Cat IIA Total	85,504

Category IIB S&E OCCs

Series	**Number**
180	262
401	24
413	24
801	369
803	11
806	342
810	17
819	16
830	676
850	127
854	118
855	2,301
861	620
871	50
892	15
893	85
896	31
1301	314

1310	1,122
1313	14
1320	322
1321	35

Occupations by Category (Cont.)
Category IIB S&E OCC's (Cont.)

1330	61
1340	81
1350	7
1360	85
1515	97
1520	206
1529	14
1530	6
1550	322
Other	91
Cat IIB S&E Total	7,865

Category IIB Other OCCs

Series	**Number**
301	170
334	168
343	241
346	71
391	25
501	73
510	17
560	82
1101	37
1152	10
1910	10
2003	20
Cat IIB Other Total	924

Tab C
Army Key Acquisition and Technology Workforce
Final Count Summary Data

Army Summary Data
Key Acquisition and Technology Workforce (A&TWF)
(Based on USD(A&T) memo dated 20 Nov 1998, which uses 31 March 1998, as the baseline date for data)

By Occupation

Engineers	14,049
(General Engineers	3,441)
(Electronics Engineers	3,424)
(Mechanical Engineers	2,043)
(Civil Engineers	2,133)
Management	5,761
Contracting	5,194
Comm/Computers	2,758
Admin. & Programs	2,180
Scientists	1,740
Financial Mgmt.	1,602
Business & Industry	1,939
Math & Statistics	966
Proc. Asst.	835
Supply Prog. Mgmt.	775
Purchasing	530
Misc.	1,361
Total Civilians	39,690
Total Military	2,675
Total Army A&TWF	42,365

Army Summary Data (Cont.)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	6,638
Category IIA	28,434
Category IIB	1,640
(Cat IIB, S&E	1,374)
(Cat IIB, Other	266)
Category III	2,978
(net adds)	
Total Civilians	39,690
Total Military	2,675
Total Army A&TWF	42,365

*Note: The DMDC count was eventually acceptable to the Army, and was used as their input for the Army A&TWF; however, due to time constraints, some detailed Army backup number differences (less than 300) were not resolved. However, these relatively small differences will be resolved in the near future.

Army Key A&TWF (Cont.)

By Organization

Organization	Civilians	Military	Total
Group IIA			
Corps of Engineers	6,451	278	6,729
SMDC	704	47	751
AAESA/PEO	1,559	327	1,886
AMC	24,696	754	25,450
SARDA	101	86	187
Medical Research & Materiel Cmd	139	127	266
Group IIB			
AR Institute	83	0	83
AR Lab	1,553	2	1,555
AR Office	71	1	72
Other	4,333	1,053	5,386
Total Army A&TWF	39,690	2,675	42,365

Army Key A&TWF (Cont.)

Occupations by Category

Category I

Series	Number
246	12
340	533
1102	4,788
1103	79
1105	530
1150	222
Adds	474
Cat I Total	6,638

Category IIA

Series	Number
150	28
180	63
301	2,036
334	2,185
343	2,101
346	2,947
391	315
392	9
413	41
501	105
505	36
510	443

Category IIA (Cont.)

Series	Number
560	962
801	3,277
806	68
810	1,816
818	28
819	446
830	1,909
840	3
850	498
854	572
855	2,990
858	11
861	433
873	14
890	2
892	1
893	290
894	1
896	224
1101	213
1104	8
1130	2
1152	78
1301	539
1310	211
1313	14
1315	10
1320	418
1321	19
1350	122
1360	2
1370	21
1373	1
1515	654
1520	169
1529	20
1530	12
1550	196
1910	808
2003	772
2150	2
Other	289
Cat IIA Total	28,434

Category IIB S&E OCCs

Series	Number
180	131
401	4
413	2
801	108
806	58
819	4
830	134
850	12
854	12
855	326
861	68
892	6
893	12
896	2
1301	103
1310	163
1320	40
1321	6
1340	22
1350	1
1386	1
1515	53
1520	44
1529	8
1530	6
1550	48
Cat IIB S&E Total	1,374

Category IIB Other OCCs

Series	Number
301	53
343	72
346	58
391	14
392	1
501	3
505	1
510	13
511	2
560	39
1101	1
1152	1
1910	5
2003	3
Cat IIB Other Total	266

Tab D
Navy Key Acquisition and Technology Workforce
Final Count Summary Data

Navy Summary Data
Key Acquisition and Technology Workforce (A&TWF)
(Based on USD(A&T) memo dated 20 Nov 1998, which uses 31 March 1998, as the baseline date for data)

By Occupation

Engineers	22,096
(Electronics Engineers	9,518)
(Mechanical Engineers	3,813)
(General Engineers	2,525)
(Aerospace Engineers	1,489)
Management	5,385
Contracting	4,212
Comm/Computers	4,398
Scientists	2,088
Business & Industry	1,970
Admin. & Programs	1,190
Math. & Statistics	1,185
Purchasing	1,165
Financial Mgmt.	470
Equip. Spec.	249
Gen. Supply	326
Inventory Mgmt.	235
Misc.	1,410
Total Civilians	46,379
Total Military	3,304
Total Navy A&TWF	49,683

Navy Summary Data (Cont.)

Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	6,375
Category IIA	31,846
Category IIB	4,057
(Cat IIB, S&E	3,771)
(Cat IIB, Other	286)
Category III	4,101
(net add)	
Total Civilians	46,379
Total Military	3,304
Total Navy A&TWF	49,683

*Note: The DMDC count was acceptable to the Navy and was used as their input for the Navy A&TWF.

Navy Key A&TWF (Cont.)

By Organization

Organization	Civilians	Military	Total
Group IIA			
NAVAIR	9,858	448	10,306
NAVSUP	2,719	16	2,735
NAVSEA	17,316	318	17,634
NAVFAC	3,116	339	3,455
PEO/DRPM	2,128	336	2,464
SPAWAR	3,516	178	3,694
ASN(RDA)	169	23	192
USMC Sys Cmd	445	167	612
Group IIB			
ONR/NRL	2,328	3	2,331
Other	4,784	1,476	6,260
Total Navy A&TWF	46,379	3,304	49,683

Navy Key A&TWF (Cont.)

Occupation by Category

Category I

Series	Number
246	7
340	632
1102	4,212
1103	74
1105	1,165
1150	285
Cat I Total	6,375

Category IIA

Series	Number
180	60
301	1,145
334	2,443
343	2,410
346	1,631
391	167
392	15
501	48
505	19
510	74
560	327
801	2,401
806	119
810	608
819	700
830	3,414
840	90
850	651
854	334
855	7,970
861	971
871	469
873	9
893	173
896	317
1101	526
1104	11
1130	5
1152	454

1301	58
1310	530
1320	157
1321	21

Occupation by Ctaegory (Cont.)
Ctaegory IIA (Cont.)

1350	6
1360	23
1515	432
1520	569
1529	14
1530	14
1550	1,245
1910	575
2003	613
2150	28
Cat IIA Total	31,846

Category IIB S&E OCCs

Series	**Number**
150	4
180	44
401	12
403	4
413	3
440	1
560	1
690	2
801	124
804	1
806	78
808	1
810	10
818	1
819	3
830	399
840	4
850	69
854	26
855	1,099
861	122
871	50
892	7
893	48
896	15
1301	96
1306	4
1310	723
1313	14
1320	209
1321	28
1330	52

1340	47
1350	6
1360	85
1370	2

Occupation by Category (Cont.)
Ctaegory IIB S&E OCC's (Cont.)

1515	39
1520	124
1529	1
1550	213
Cat IIB S&E Total	3,771

Category IIB Other OCCs

Series	**Number**
301	45
334	111
343	78
391	6
1101	23
1104	1
1152	5
1910	4
2003	13
Cat IIB Other Total	286

Tab E
Air Force Key Acquisition and Technology Workforce
Final Count Summary Data

Air Force Summary Data
Key Acquisition and Technology Workforce (A&TWF)
(Based on USD(A&T) memo dated 20 Nov 1998, which uses 31 March 1998, as the baseline date for data)

By Occupation

Engineers	6,429
(Electronics Engineers	3,010)
(Aerospace Engineers	1,098)
(General Engineers	976)
(Mechanical Engineers	385)
Contracting	4,903
Management	3,259
Financial Mgmt.	1,364
Business & Industry	1,639
Comm/Computers	1,287
Admin. & Programs	1,078
Inventory Mgmt.	709
Proc. Asst.	699
Equip. Spec.	609
Scientists	551
Purchasing	423
Misc.	866
Total Civilians	23,816
Total Military	9,605
Total Air Force A&TWF	33,421

Air Force Summary Data (Cont.)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	5,667
Category IIA	10,634
Category IIB	2,997
(Cat IIB, S&E	2,651)
(Cat IIB, Other	346)
Category III	4,518
(net adds)	
Total Civilians	23,816
Total Military	9,605
Total Air Force A&TWF	33,421

*Note: The DMDC count was acceptable to the Air Force and was used as their input for the Air Force A&TWF.

Air Force Key A&TWF (Cont.)

By Organization

Organization	Civilians	Military	Total
Group IIA			
AFMC	15,789	5,075	20,864
PEO	6	33	39
ASAF(A)	67	215	282
Group IIB			
AF Office of Scientific Research	75	23	98
AF Research Lab	3,295	893	4,188
Other	4,584	3,366	7,950
Total Air Force A&TWF	23,816	9,605	33,421

Air Force Key A&TWF (Cont.)

Occupations by Category

Category I

Series	Number
246	7
340	215
1102	4,903
1103	47
1105	423
1150	72
Cat I Total	5,667

Category IIA

Series	Number
180	16
301	812
334	823
343	738
346	1,955
391	36
392	4
413	2
501	710
505	13
510	117
560	406
801	760
806	6
810	32
818	2
819	89
830	242
840	2
850	16
854	63
855	1,548
861	668
881	1
893	2
896	57
1101	1,037
1152	9
1301	40
1310	10
1320	37
1515	106

Occupations by Category (Cont.)
Ctaegory IIA (Cont.)

1520	37
1550	94
1910	95
2003	49
Cat IIA Total	10,634

Category IIB S&E OCCs

Series	**Number**
180	87
401	8
403	7
413	19
602	2
701	1
801	137
803	8
804	1
806	206
807	1
808	2
810	7
819	9
830	143
840	3
850	38
854	80
855	876
858	6
861	430
892	2
893	25
896	14
1301	92
1310	236
1320	73
1321	1
1330	9
1340	12
1370	2
1384	1
1515	9
1520	38
1529	5
1550	61
Cat IIB S&E Total	2,651

Category IIB Other OCCs

Series	Number
301	56
334	52
343	80
346	13
391	5
501	70
505	2
510	4
560	42
1101	13
1152	4
1910	1
2003	4
Cat IIB Other Total	346

Tab F
Fourth Estate Key Acquisition and Technology Workforce
Final Count Summary Data

Fourth Estate Summary Data
Key Acquisition and Technology Workforce (A&TWF)
(Based on USD(A&T) memo dated 20 Nov 1998, which uses 31 March 1998, as the baseline date for data)

By Occupation

Engineers	1,543
(General Engineers	361)
(Electronics Engineers	438)
(Mechanical Engineers	141)
(Aerospace Engineers	126)
Business & Industry	7,441
Contracting	5,078
Auditing	3,692
Proc. Asst.	1,116
Management	1,104
Comm/Computers	927
Admin. & Programs	668
Financial Mgmt.	182
Scientists	97
Supply Prog. Mgmt.	299
Math. & Statistics	57
Purchasing	40
Misc.	932
Total Civilians	23,176
Total Military	794
Total Fourth Estate A&TWF	23,970

Fourth Estate (Cont.)
Key Acquisition and Technology Workforce (A&TWF)

By Category

Category I	6,887
Category IIA	14,590
Category IIB	95
(Cat IIB, S&E	69)
(Cat IIB, Other	26)
Category III	1,604
(net adds)	
Total Civilians	23,176
Total Military*	794
Total Fourth Estate A&TWF	23,970

* Note: Database updating is necessary to ensure accurate and complete counting of all Fourth Estate A&TWF Military positions. The difference is relatively small and updating will be done in the near future.

Fourth Estate Summary Data (Cont.)
Key Acquisition and Technology Workforce (A&TWF)

By Organization

Organization	Civilians
DLA	17,506
DCAA	3,698
DISA	573
DTRA (Group IIB)	96
OUSD(A&T)	331
BMDO	181
SOALC/SOCOM	60
DSMC	82
TRICARE	76
DARPA (Group IIB)	70
OASD(C3I)	19
OJCS(J-8)	1
Other	483
Total Fourth Estate Civilians	23,176

Organization	Military
DLA	546
DTRA (Group IIB)	47
OUSD(A&T)	79
BMDO	88
SOALC/SOCOM	30
OASD(C3I)	4
Total Fourth Estate Military	794
Total Fourth Estate A&TWF	23,970

Defense Logistics Agency (DLA)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	5,972
Category IIA	10,092
Category III	1,442
(net add)	
Total DLA Civilians	17,506
Total DLA Military	546
Total DLA A&TWF	18,052

*Note: The DMDC civilian count was acceptable to DLA and thus was used as their input for the DLA A&TWF. Since DMDC does not calculate Fourth Estate military A&TWF positions, the DLA input was used.

DLA (Cont.)

By Occupation

Series	Number
340	13
1102	4,683
1103	371
1105	39
1150	866
301	571
334	672
343	841
346	34
391	36
392	4
501	66
505	5
510	41
580	70
801	328
806	5
810	10
819	8
830	141
840	5
850	13
854	49
855	438
858	6
861	126
893	11
896	175
1101	1,205
1104	604
1130	7
1152	8
1320	38
1510	3
1515	22
1530	2
1910	4,246
2003	299
Other	5
Total DLA Civilians	17,506

Defense Contract Audit Agency (DCAA)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	2
Category IIA	3,696
Total DCAA A&TWF	3,698

By Occupation*

Series	**Number**
340	1
1105	1
511	3,692
896	2
1515	2
Total DCAA A&TWF	3,698

*Note: The DMDC count was acceptable to DCAA and thus was used as their input for the DCAA A&TWF. No military are employed at key A&TWF positions at DCAA.

Defense Information Systems Agency (DISA)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	259
Category IIA	175
Category III	139
Total DISA A&TWF	573

By Occupation*

Series	**Number**
301	12
340	13
346	31
1102	196
334	107
343	42
391	75
392	15
510	10
1550	11
Other	61
Total DISA A&TWF	573

* Note: UICs for DISA need to be updated so that the DMDC Reports can accurately reflect the A&TWF Divisions of DISA. Also, DISA did not report key military A&TWF personnel. This will be done in the near future.

Defense Threat Reduction Agency (DTRA)
Key Acquisition and Technology Workforce (A&TWF)
(Formerly, DSWA, DTSA and OSIA)

By Category*

Category I	56
Category IIB	38
(Cat IIB, S&E	31)
(Cat IIB, Other	7)
Category III	2
Total DTRA Civilians	96
Total DTRA Military	47
Total DTRA A&TWF	143

By Occupation*

Series	**Number**
340	2
1102	45
301	14
334	5
343	2
8xx	6
13xx	9
Other	13
Total DTRA Civilians	96

* Note: Database differences exist between DTRA and DMDC, which will be resolved in the near future. DSWA, DTSA, and OSIA were recently combined to form DTRA. These database cleanup issues do not impact the validity of the methodology. Also, it should be noted that DTRA counted their S&Es by counting those that perform 6.3 funded work and above.

Under Secretary of Defense (A&T), USD(A&T)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	48
Category IIA	282
Category III	1
(net adds)	
Total Civilians	331
Total Military	79
Total USD(A&T) A&TWF	410

By Occupation*

Series	**Number**
301	74
343	80
8xx	80
1102	39
1301	21
1515	14
Other	23
Total Civilians	331

*Note: Database differences exist between DMDC and OUSD(A&T), which will be cleaned up in the near future. These database cleanup issues do not impact the validity of the refined Packard algorithm. In this case, the OUSD(A&T) input was used.

Ballistic Missile Defense Organization (BMDO)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	42
Category IIA	133
Category III	6
(net adds)	___
Total Civilians	181
Total Military	88
Total BMDO A&TWF	269

*Note: The DMDC count was acceptable to BMDO, thus it was used as the BMDO input for their A&TWF.

BMDO (Cont.)

By Occupation

Series	Number
301	4
334	9
343	28
560	10
801	42
854	3
855	3
1102	41
1301	13
1515	14
Other	14
Total Civilians	181
Total Military	88
Total A&TWF	269

U.S. Special Operations Command (SOCOM)
Special Operations Acquisition & Logistics Center (SOALC)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	11
Category IIA	37
Category III	12
Total Civilians	60
Total Military	30
Total SOALC A&TWF	90

By Occupation*

Series	**Number**
301	5
334	2
343	15
346	5
501	2
560	2
801	3
1101	3
1102	11
Cat III	12
Total Civilians	60

*Note: Due to database differences between DMDC and SOCOM/SOALC, the SOALC input was used. The differences are relatively small, but will be resolved in the near future.

Defense Systems Management College (DSMC)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category IIA	82
Total DSMC A&TWF	82

By Occupation*

Series	**Number**
1101/2	50
501/5	8
801	20
Other	4
Total DSMC A&TWF	82

*Note: The DSMC data was based on the input they provided for the Initial Count.

Defense Advanced Research Project Agency (DARPA)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	13	
Category IIB	57	
(Cat IIB, S&E	38)	
(Cat IIB, Other	19)	
Total DARPA A&TWF		70

By Occupation*

Series	**Number**	
301	2	
343	9	
8xx	19	
1102	8	
1301	15	
1515	4	
Other	13	
Total DARPA A&TWF		70

*Note: Database differences exist between DARPA and DMDC which will be cleaned up in the near future. These relatively small cleanup issues do not impact on the validity of the refined Packard algorithm. In this case, the DARPA input was used.

Assistant Secretary of Defense (Health Affairs)
Key Acquisition and Technology Workforce (A&TWF)
(TRICARE)

By Category*

Category I	23
Category IIA	53
Total TRICARE A&TWF	76

By Occupation*

Series	**Number**
301	24
334	4
343	24
1101	1
1102	20
Other	3
Total A&TWF	76

*Note: The TRICARE data was based on the input they provided for their Initial Count.

Assistant Secretary of Defense(C3I), ASD(C3I)
Key Acquisition and Technology Workforce (A&TWF)

By Category*

Category I	0
Category IIA	19
Total Civilians	19
Total Military	4
Total ASD(C3I) A&TWF	23

By Occupation*

Series	**Number**
301	1
334	9
343	6
1301	1
850	2
Total Civilian	19
Military	4
Total ASD(C3I) A&TWF	23

*Note: ASD(C3I) data was based on their submission for the Final Count.

Tab G
DMDC "Special Fixes"

Main DMDC "Special Fixes"
Requested by the Components
To Aid in Implementing The Algorithm

Army

Delete Active Duty Non-DAWIA Warrant Officers.

Navy

Delete Active Duty Non-DAWIA Navy/USMC Military Officers.
Delete Non-DAWIA Civilians in OCCs 346, 501, 505, 510, 511, and 560.
Move Certain Navy SSNs from Cat IIA to Cat IIB, to reflect S&T OCCs properly.

Air Force

Add all Air Force DAWIA enlisted positions.
Delete Non-DAWIA Officers and Cat II Civilians in PEC 78211F.
Add enlisted Air Force AFSC 6C0.
Move Civilian SOAC to Defense Agency Section, to reflect SOAC properly.

Other

Exclude Civilians coded as Civil Function.
Delete DCAA Civilians in Cat II OCCs, except for 511, 896, and 1550.
DCAA Cat III Civilian DAWIA Outliers removed due to erroneous file data.
For Cat III, for Services, all encumbered DAWIA outlier positions added.

Tab H
Service UIC Methodology

Army Unit Identification Code (UIC) Methodology

With three exceptions, the Army has kept their level of organizational detail at the command code level. Thus, for these organizations, everyone (both military and civilian) is counted as long as they meet the criteria contained in the refined Packard Algorithm.

The three exceptions are as follows:

ARI is a subordinate organization of PERSCOM. Thus, only ARI in PERSCOM is counted, but the entire UIC for ARI is counted.

Only a number of UICs, considered part of the A&TWF, within MRMC are counted.

AMC is only an exception from the standpoint that part of the total AMC A&TWF are counted in Category IIA and the rest are counted in Category IIB. Also, Categories I and III are implemented and counted as required.

In addition, in general, the Army excludes their operational testers in OPTEC, and also excludes personnel assigned to their depots (AMC). However, Category I and Category III (including all DAWIA) are implemented and counted as required.

Navy Unit Identification Code (UIC) Methodology

Navy Category II organizations include all of their Major Acquisition Organizations. Certain UICs within those organization, however, were excluded based on the determination that acquisition was not their primary mission. The following provides information on these excluded UICs, segregated by their parent Systems Command. While not 100% inclusive, it does incorporate the great majority of excluded UICs, grouping them into specific categories, e.g., maintenance depots, public works centers, etc. As always, people in the occupational series considered "always acquisition" and people in "DAWIA-coded positions" in these excluded UICs were captured in either Category I or Category III.

Naval Air Systems Command

Excluded: Organizations primarily involved in maintenance depots function, i.e., the naval aviation depots.

Rationale: These organizations are performing maintenance depot operations. Per agreement among the military departments and the DoD components, maintenance depot functions are not considered part of the A&TWF.

Naval Sea Systems Command

Excluded: Organizations primarily involved in maintenance depot functions, i.e., the Shipyards.

Rationale: These organizations are performing maintenance depot operations. Per agreement among the military departments and the DoD components, maintenance depot functions are not considered part of the A&TWF.

Naval Facilities Engineering Command

Excluded: Public Works Centers and Construction Battalions.

Rationale: Contracting functions (1102s formerly employed at Public Works Centers and Construction Battalions) have been transferred to NAVFACs Engineering Field Divisions. The Public Works Centers are primarily staffed with wage grade (i.e., "blue collar" workers); Construction Battalions are likewise staffed with construction workers.

Naval Supply Systems Command

Excluded: Primarily NAVSUPs Fleet Industrial Support Centers, Food Service organizations, and Navy Exchanges.

Rationale: Fleet Industrial Support Centers are primarily involved with stock control functions by product line, i.e., mail, fuel, household goods, food, etc. Food Service Organizations are involved in the development of menus, food preparation and serving - categorized as restaurant functions. Finally, Navy Exchanges provide armed services personnel with a retail outlet for common items and material - personnel involved in retail business management and customer service are not considered part ofthe A&TWF.

Other Miscellaneous Activities: Most of the other organizations excluded at NAVSUP are primarily associated with administrative support/stock control function, or are otherwise not involved in the acquisition/procurement process.

Air Force Unit Identification Code (UIC) Methodology

Group IIA organizations include SAF/AQ, AF PEO, and AFMC organizations that perform acquisition functions. In general, the AFMC group IIA organizations' UICs were selected as follows:

Product Centers -all non-Base Operating Support (BOS) UICs
Test Centers - all non-BOS UICs (Logistics Groups and Operation Support Squadrons are not included)
Air Logistics Centers - Product Management directorates
HQ AFMC - specific directorates/offices

Group IIB includes all UICs in AFs science and technology organizations: AF Research Lab (AFRL) and AF Office of Scientific Research (AFOSR).

Group III:

Adds all officer, enlisted, and civilian DAWIA-coded positions that were not captured in Categories I or IIA/B.

Adds all enlisted personnel in Contracting Air Force Specialty Code (AFSC).

Deletes officers counted in group IIA or IIB if they are in one of the following BOS-type AFSCs:

34MX - Morale, Welfare, & Recreation & Services
34PX - Public Affairs
88P0 - Protocol
93P0 - Patients

Deletes all personnel in program element (PE) 78211F, Depot Maintenance, unless DAWIA-coded.