

# Program Analysis and Evaluation (PA&E) Transition Book

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## AN INTRODUCTION TO PA&E

The office of Program Analysis and Evaluation dates back to 1961, and has also been known at various times as the Office of Systems Analysis, and as the Office of Planning and Evaluation. Its staff has varied from a peak of over 200 to around 100; today's level is authorized at 157. Of these, 128 are analytical staff. About 30 percent of the professional staff are active duty military officers and many of the civilian personnel also have served in the armed services. All the analytical staff members have been hand picked and they have graduate degrees in a quantitative analytical field.

The office provides independent analytic advice to the Secretary and Deputy Secretary of Defense regarding alternative weapon systems and force structures, the development and evaluation of alternative defense programs, and the cost-effectiveness of defense systems. Consistent with its advisory role, the office has no decision authority or line responsibility, and has no vested interest in any sector of the defense budget.

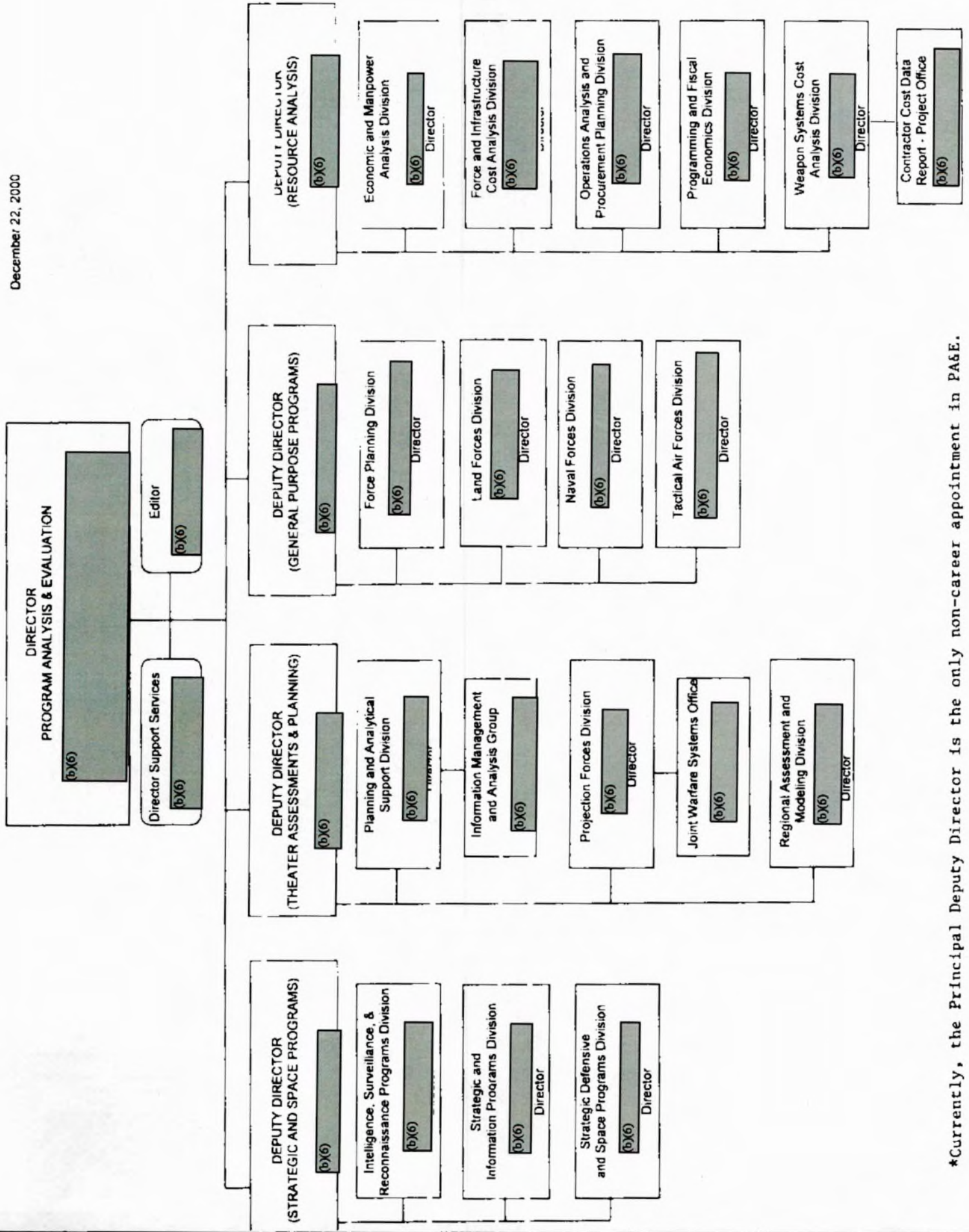
PA&E is responsible for management of the programming system. This includes working with other OSD offices to develop planning and programming guidance, as well as directing the annual program review. The ultimate product from the program review is the Future Years Defense Program, or FYDP—the authoritative statement of the Department's plans for force structure (number of ships, brigades and divisions, aircraft squadrons and wings we will operate), procurement (number of ships, tanks, aircraft, missiles we will buy), manpower (number of people, military and civilian, we will employ in each of the services and defense agencies), and other supporting programs (such as R & D and military construction), and what it will all cost. Specifically, the Director of PA&E serves as Executive Secretary of the Defense Resources Board (DRB), the senior deliberative body responsible for advising the Secretary of Defense on resource issues. The Director also serves as Chair of the Program Review Group (PRG), which reviews and formulates major program reviews prior to their presentation to the DRB. PA&E also is responsible for preparing the Defense Planning Guidance, the document through which the Secretary of Defense provides direction on the priorities to be followed in formulating the defense program. PA&E's Deputy Director for Resource Analysis serves as Chair of the Cost Analysis Improvement Group, the organization responsible for preparing independent cost estimates of major defense programs. In addition, PA&E traditionally plays a central role in preparing analyses and formulating alternatives for major defense reviews, such as the Quadrennial Defense Review (QDR).

Administratively, PA&E reports to the Under Secretary of Defense (Comptroller). Within this structure, PA&E and Comptroller have fostered a complementary relationship, with PA&E directing the programming phase of budget deliberations, while Comptroller focuses on budget-level issues. Because many specific issues are dealt with in both phases of the programming and budgeting cycle, PA&E and Comptroller management and analysts work together closely to manage the Department's fiscal issues in a coordinated way.

To be able to sustain its position as an intellectually independent advisor to the Secretary and Deputy Secretary of Defense, PA&E has avoided making public statements regarding the defense program and, in particular, defending or justifying that program. This has allowed PA&E to take positions in private that it could not easily take in public—to play the role of “devil’s advocate,” to propose and analyze alternatives to both service and administration positions with objectivity, to give the Secretary and Deputy Secretary of Defense whatever analytical help he may need—and to do all this with no purpose other than helping the Secretary. This policy has preserved the intellectual integrity of the staff, but it has occasionally made it the object of criticism.

PA&E has always been a reflection of the particular Secretary and Deputy Secretary of Defense for whom it is working, and its actions have been tailored to their objectives and management procedures. This has often included the unpopular but necessary task of fitting the defense program to the budgetary limits set for the Department by the President. But, the office does more than develop internal critiques of proposed programs: it has led the way and performed a major role in developing significantly more ambitious Defense programs for the Secretary’s and administration’s consideration. These activities have been focused on the areas where joint programs are particularly important, such as mobility systems. In recent years, PA&E has also played a major role in several efforts to work with the Office of Management and Budget to secure additional defense resources to support the objectives of the 1997 Quadrennial Defense Review.

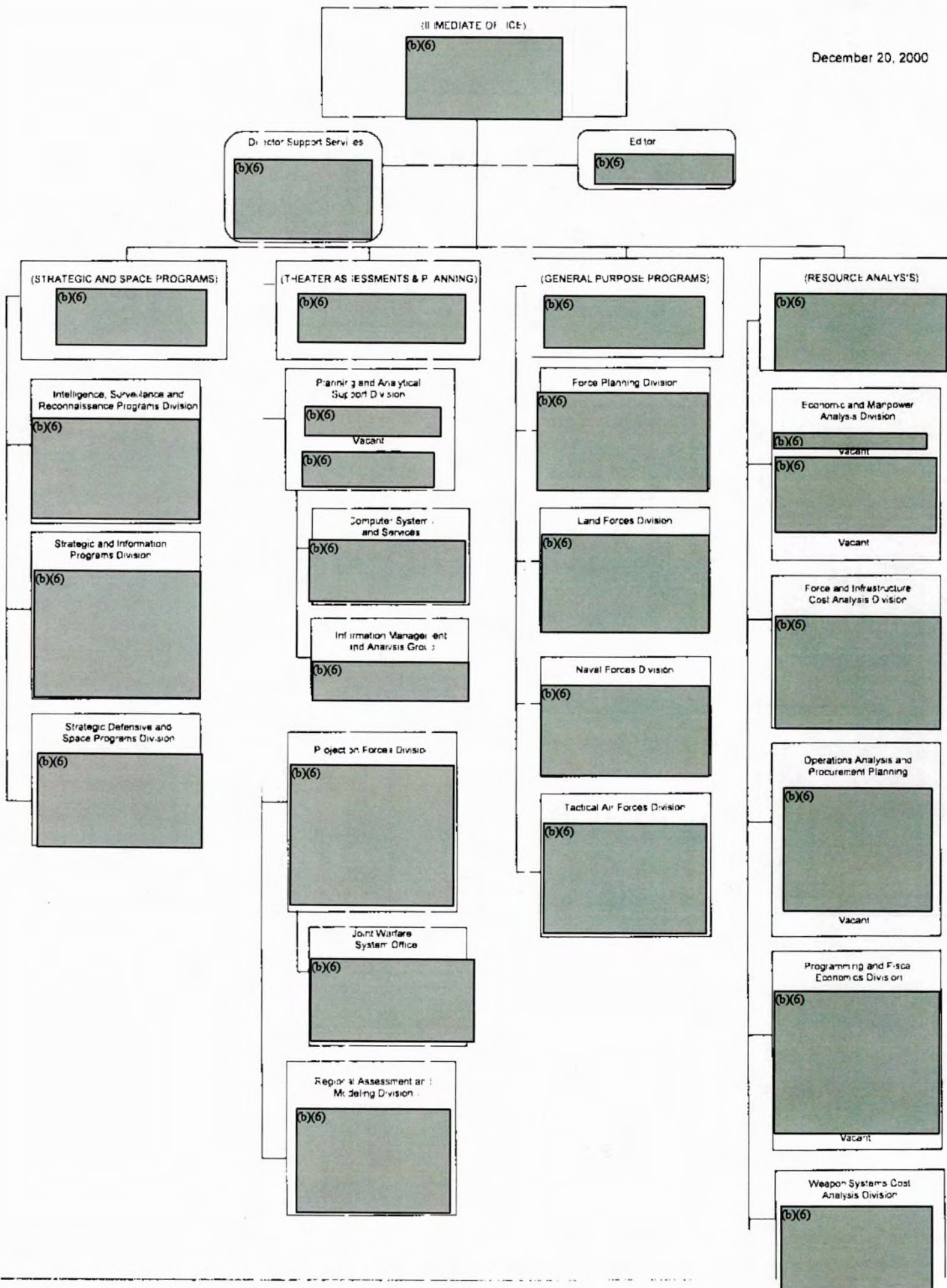




\*Currently, the Principal Deputy Director is the only non-career appointment in PA&E.



December 20, 2000





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# Department of Defense DIRECTIVE

NUMBER 5141.1

March 18, 1999

(DA&M)

SUBJECT: Director, Program Analysis and Evaluation (PA&E)

References: (a) Title 10, United States Code

- (b) DoD Directive 5141.1, "Assistant Secretary of Defense (Program Analysis and Evaluation)," February 1, 1989 (hereby canceled)
- (c) DoD Directive 5000.4, "CSD Cost Analysis Improvement Group (CAIG)," November 24, 1991
- (d) DoD Directive 518.3, "Under Secretary of Defense (Comptroller) (USD(C))/Chief Financial Officer (CFO), Department of Defense," January 6, 1997
- (e) DoD 5025.1-M, "DoD Directives System Procedures," August 1994, authorized by DoD Directive 5025.1, June 24, 1994
- (f) DoD Directive 8900.1, "Management and Control of Information Requirements," June 11, 1991

## 1. REISSUANCE AND PURPOSE

Under the authority vested in the Secretary of Defense by Section 113 of reference (a), this Directive reissues reference (b) to update the responsibilities, functions, relationships, and authorities of the Director, PA&E, as prescribed herein.

## 2. APPLICABILITY

This Directive applies to the Office of the Secretary of Defense (OSD), the Military Departments, the Chairman of the Joint Chiefs of Staff, the Combatant Commands, the Inspector General of the Department of Defense (IG, DoD), the Uniformed University of the Health Sciences, the Defense Agencies, and the DoD Field Activities (hereafter referred to collectively as the "DoD Components").

### 3. RESPONSIBILITIES AND FUNCTIONS

The Director, PA&E, is the principal staff assistant and advisor to the Under Secretary of Defense (Comptroller) (USD(C))/Chief Financial Officer (CFO), Department of Defense, and the Secretary and Deputy Secretary of Defense for matters pertaining to program analysis and evaluation. In this capacity, the Director, PA&E, shall:

3.1. Provide analysis and advice, make recommendations, and participate in the development of policies for and the operation of the Planning, Programming, and Budgeting System, including the fiscal and programmatic guidance upon which DoD program projects are based.

3.1.1. Manage the program review phase of the Planning, Programming, and Budgeting System; including serving as Executive Secretary of the Defense Resources Board (DRB) and Chairman of the Program Review Group (PRG).

3.1.2. In coordination with the Under Secretary of Defense (Policy), prepare the Defense Planning Guidance (DPG) and serve as Cochairman of the Defense Planning Advisory Group (DPAG)

3.2. Perform analyses and evaluations of alternative plans, programs, forces, personnel levels and budget submissions in relation to projected threats, allied contributions, estimated costs, resource constraints, and U.S. defense objectives and priorities.

3.3. Review, analyze, evaluate, or initiate programs (including intelligence and classified programs), actions, and taskings to ensure adherence to DoD policies, standards, and national security objectives, and ensure that they are designed to accommodate operational requirements and promote the readiness and efficiency of the U.S. Armed Forces.

3.4. Ensure that the costs of DoD programs, including classified programs, are presented accurately and completely.

3.5. Provide guidance for and manage the operation and improvement of the DoD Future Years Defense Program (FYDP) system, including the Program Element Structure.

3.6. Assess the effects of DoD spending on the U.S. economy and evaluate alternative policies to ensure that the DoD program can be implemented efficiently.

3.7. Provide leadership in developing and promoting improved analytic tools, data, and methods for analyzing national security planning; the effectiveness of United States, allied, and threat forces; and the allocation of resources.

3.8. Serve on boards, committees, and other groups pertaining to the Director, PA&E's functional areas, and represent the USD(C)/CFO and Secretary of Defense on PA&E matters outside the Department of Defense.

3.9. In support of the Under Secretary of Defense (Acquisition and Technology), perform critical reviews of requirements, performance, and life-cycle costs of current and proposed weapon systems including reviews of Analyses of Alternatives (AOAs) submitted within the Defense Acquisition Board review and milestone decision process. Provide advance guidance to the Military Departments on alternatives and analytic techniques employed in weapon system AOAs.

3.10. Provide leadership and support to the Cost Analysis Improvement Group, in accordance with DoD Directive 5000.4 (reference (c)).

3.11. Perform such other duties as the USD(C)/CFO and the Secretary of Defense may prescribe.

#### 4. RELATIONSHIPS

4.1. In the performance of assigned functions and responsibilities, the Director, PA&E, shall serve under the authority, direction, and control of the USD(C)/CFO, and shall:

4.1.1. Report to the USD(C)/CFO, in accordance with DoD Directive 5118.3 (reference (d)); however, substantive programmatic analysis, advice, and recommendations shall be submitted directly to the Secretary and Deputy Secretary of Defense.

4.1.2. Coordinate and exchange information with other OSD officials, heads of DoD Components, and Federal officials having collateral or related functions.



4.1.3. Use existing facilities and services of the Department of Defense or other Federal Agencies, when practicable, to avoid duplication and achieve maximum efficiency and economy.

4.2. Other OSD officials and Heads of DoD Components shall coordinate with the Director, PA&E, on all matters related to the responsibilities and functions cited in section 3., above.

## 5. AUTHORITIES

The Director, PA&E, is hereby delegated authority to:

5.1. Issue DoD Instructions, DoD publications, and one-time directive-type memoranda, consistent with DoD 5025.1-M (reference (e)), that implement policy approved by the Secretary of Defense in assigned areas of responsibility. Instructions to the Military Departments shall be issued through the Secretaries of those Departments or their designees. Instructions to the Combatant Commands shall be communicated through the Chairman of the Joint Chiefs of Staff.

5.2. Obtain reports, information, advice, and assistance, consistent with DoD Directive 8910. (reference (f)), as necessary to carry out assigned functions.

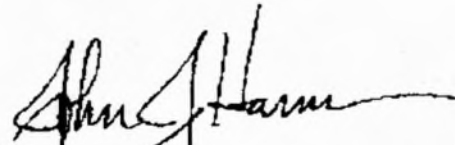
5.3. Communicate directly with heads of DoD Components. Communications to Combatant Commanders shall be transmitted through the Chairman of the Joint Chiefs of Staff.

5.4. Communicate with other Government officials, representatives of the Legislative Branch, members of the public and representatives of foreign governments, as appropriate, in carrying out assigned functions.

## 6. EFFECTIVE DATE

This Directive is effective immediately.



A handwritten signature in dark ink, appearing to read "John J. Hamre". The signature is fluid and cursive, with a long horizontal stroke extending to the right.

John J. Hamre  
Deputy Secretary of Defense



OFFICE OF THE DIRECTOR, SUPPORT SERVICES

Michelle Green, Director

The Support Services Office provides central administrative support for the organization in the following areas: travel budget and travel order authorization; civilian and military personnel management; personnel, information, and physical security; correspondence and mail distribution; research and reference service; records management; office facilities, supplies, and property management; document printing, distribution, etc. for the DoD program and execution reviews.

## Resource Analysis Deputate

The Office of the Deputy Director, Resource Analysis, serves as the key advisor to the Office of the Secretary of Defense on program costs. The office assists the Director, Program Analysis and Evaluation (PA&E), in the management of the program review phase of the Planning, Programming and Budgeting System (PPBS); performs analyses and evaluations of alternative plans, programs, forces, personnel levels, and budget submissions; and operates and improves the DoD Future Years Defense Program (FYDP) system. The Deputy Director serves as the Executive Secretary to the Program Review Group. In addition, the office develops the statutory-mandated independent cost estimates for major defense acquisition programs. In this capacity, the Deputy Director acts as the Chairman of the Cost Analysis Improvement Group (CAIG), as which he reports directly to the Under Secretary of Defense (Acquisition, Technology and Logistics) (USD(AT&L)). The Deputy Director's immediate staff administers these analytical functions for the five divisions that make up Resource Analysis, with the primary administrative functions being:

- Program Review Coordinator
- CAIG Executive Secretary
- CAIG Librarian

Economic and Manpower Analysis Division: The division conducts studies of economic issues associated with the defense program, as well as analyses of civilian and military manpower, personnel policies and requirements, including recruiting, retention, compensation, quality of life concerns, and health care. Also, the division provides analytical and other support of program review. Finally, members of the division prepare independent analyses of the costs of major weapon systems in support of the CAIC. Projects include:

- Creation of a system to better manage military health care costs
- Design and review of performance contracts for defense agencies
- Assessment of the Department's outsourcing and privatization program
- Overview of the implications of trends in the economy for the level of resources likely to be available to DoD
- Evaluation of choices among personnel compensation arrangements with different incentive effects
- Projection of the planned future defense budget on planned DoD budgets into the implied defense purchases from the national economy.

Force and Infrastructure Cost Analysis Division: The division studies force structure and infrastructure costs, weapon system life cycle costs, and logistics issues in support of senior DoD decisionmakers. The division's staff is comprised of operations research analysts, civil engineers, and logistics specialists. It provides a wide range of analytical and other support to DoD's program and budget review process. The division is responsible for force structure models and Base Realignment and Closure (BRAC) assessments in support of the Quadrennial Defense Review (QDR). In addition, members of the division serve in the CAIG chaired by the Deputy Director (Resource Analysis). Recent projects have included:

- Aviation Materiel Support Review
- Operations and Maintenance Program Balance
- Visibility & Management of Operating and Support Costs Expansion
- Force & Infrastructure Code Enhancements
- Force Structure Costing System Development
- Facilities Sustainment Model Implementation
- Defense Working Capital Fund Programming

Operations Analysis and Procurement Planning Division: The division develops CAIG life-cycle cost estimates for major defense acquisition programs in support of the Defense Acquisition Board and the PPBS. Cost estimates are prepared for a broad array of high-technology systems including: satellite imaging communication, navigation, and weather systems, space launch systems, national and theater missile defense systems, advanced software systems, advanced naval surface combatants, precision strike systems, chemical demilitarization systems, biological defense production facilities, and contracted medical care support for active duty and retired military personnel. The division leads interagency working groups examining cost issues related to the use of radio frequency spectrum for civil navigation satellites and third generation wireless communication systems. The division also organizes and administers the Annual DoD Cost Analysis Symposium and leads college recruiting initiatives for OSD/PA&E. Recent analyses include:

- Independent Cost Estimate for the National Missile Defense Program
- Independent Cost Estimate for the Global Hawk Unmanned Aerial Vehicle (UAV) program
- Cost Assessments for the Space Based Infrared Systems (SBIRS) High and Low satellite programs
- Cost Assessment for the DD-21 advanced surface combatant program
- Development of a Cost Model for Contracted Medical Care for DoD Personnel
- Independent Cost Estimate for the Theater High Altitude Area Defense (THAAD) program
- Analysis of Vaccine Production Facility Requirements and Costs



Programming and Fiscal Economics Division: The division's staff is an interdisciplinary team of operations research analysts and information technology specialists. The division prepares the Deputy Secretary's annual fiscal guidance. The division serves as DoD's chief information office for data for the DoD multi-year program. The division operates the FYDP and the Program Objectives Memorandum (POM), and applies Internet and other technology to modernize them and make them interoperable with data from the Comptroller and from the military services. The division performs special studies and provides analytical and other support to DoD's program review process. The division staff serves in the Cost Analysis Improvement Group (CAIG). The division maintains liaison with the Defense Resources Management Institute (DRMI) in Monterey, California, on behalf of the Director, Program Analysis and Evaluation. Recent projects have included:

- Web-based FYDP
- "POM-Less" Program Review
- Defense Programming Database
- Military Manpower Coordination System
- FYDP Visibility of Management Headquarters, and CINC Manpower
- Cost Growth Research
- FYDP-to-Budget/Major Defense Acquisition Program (MDAP) Crosswalk

Weapon Systems Cost Analysis Division: The portfolio of this division centers on the preparation and review of development and procurement cost estimates for major weapon system acquisitions that cover the spectrum from munitions through platforms. This includes most of the recognizable DoD weapons systems such as fighters, submarines, tactical missiles, transport aircraft, tanks, helicopters, etc. The division prepares the independent cost estimates required by statute for these types of systems when they approach acquisition milestone reviews, as well as assessing in detail the strengths and weaknesses of the service's estimates and funding adequacy. In addition, the division prepares estimates of the costs of alternative options for its programs in the Program Review, the Budget Review, and the QDR. Finally, the division is often tasked by OSD(AT&L), and some times by the Congress, to undertake studies of particular interest outside of its budgeting and acquisition functions (e.g., last spring it assessed the economic case for dual sourcing the Joint Strike Fighter). Recent projects include:

- F-22 Milestone III production decision life cycle cost estimate
- Interim Armored Vehicle's Milestone II/II life cycle cost estimate
- Assessment of Crusader program reform initiatives
- Congressionally directed classified program review
- Navy's Ship Industrial Base study economic model
- Air Force Public/Private competition economic analysis

## Strategic and Space Programs (S&SP) Deputate

The office of the Deputy Director (Strategic and Space Programs) serves as the key advisor to the Office of the Secretary of Defense for cost-effectiveness and affordability assessments of defense programs for ballistic missile defense; space systems (including national intelligence); strategic forces; information technology; nuclear/chemical/biological protection; and intelligence, surveillance, and reconnaissance systems. The S&SP deputate is responsible for preparing the evaluation of programmatic alternatives on major defense issues for presentation to the Defense Resources Board and Expanded Defense Resources Board. These evaluations lead to resource allocation decisions documented in the Program Decision Memorandum issued by the DepSecDef and in the Intelligence Program Decision memorandum issued by the DepSecDef and Director of Central Intelligence (DCI). The deputate also assesses the cost-effectiveness and affordability of major defense acquisition programs reviewed by the Defense Acquisition Board as well as the costs and benefits of major information technology (IT) acquisition programs reviewed by the IT Overarching Integrated Product Team (OIPT). These assessments support milestone acquisition decisions by the USD(AT&L) and ASD(C3I). The Deputy Director (S&SP) serves as the PA&E representative to the Senior Review Group that supports the Special Access Program Oversight Committee chaired by the DepSecDef. The Deputy Director (S&SP) leads and manages the three divisions described below.

Strategic Defensive and Space Programs Division. The division has responsibility for analysis and evaluation of ballistic missile defense programs, space programs (excluding national intelligence), and strategic nuclear command, control, and communications programs. Critical analyses and assessments conducted by the division in the past few years include the following:

- Evaluation of programmatic options for deploying a national missile defense
- Analysis of the potential operational effectiveness of the Airborne Laser theater ballistic missile defense (TBMD) system
- Assessment of Global Positioning System programmatic options to increase military protection and enhance civil sector navigation capabilities
- Analysis of potential performance of the Navy Theater-Wide TBMD system
- Assessment of alternatives for the E-4B National Airborne Operations Center

Intelligence Surveillance and Reconnaissance (ISR) Programs Division. The division provides analytic support to resource decision-making on ISR programs, including those within the National Foreign Intelligence Program (NFIP). It conducts the annual Intelligence Program Review jointly with the staffs of the DCI and the ASD(C3I), and also participates in the joint intelligence budget review, DoD and National Reconnaissance office acquisition program reviews, and the Intelligence Senior Steering Group. The division staff has led the evaluation of numerous major intelligence program issues that were briefed to the DepSecDef and the DCI and resulted in resource adjustments totaling billions of dollars. These issue evaluations addressed:

- Imagery intelligence (IMINT) and signals intelligence (SIGINT) collection satellites
- Airborne reconnaissance systems, including Global Hawk and other unmanned aerial vehicles
- Measurement and signatures intelligence (MASINT) space-based demonstrations
- Modernization of IMINT tasking, processing, exploitation and dissemination
- Intelligence support to the tactical warfighter
- "SIGINT Transformation" to adapt to the changing international information technology environment
- Recapitalization of aging ballistic missile intelligence collection assets

Strategic and Information Programs Division The division has responsibility for analysis and evaluation of strategic strike forces, information technology programs, chemical/biological/nuclear protection and counterproliferation programs, the nuclear weapons stockpile stewardship program, and science and technology programs. Critical analyses and assessments conducted by the division in the past few years include the following:

- Evaluation of programmatic alternatives for modernization and service life extension of strategic forces
- Assessment of alternatives to align the Department of Energy's Nuclear Stockpile Stewardship Program with DoD nuclear warhead requirements
- Evaluation of programmatic options to assist state and local authorities to manage the consequence of a chemical or biological attack
- Analysis of programmatic alternatives for improving information assurance
- Development of a framework to track Navy / Marine Corps Intranet contract cost and effectiveness.
- Assessment of options for improving DoD's wide-area and base-level communications infrastructure.

## Theater Assessments and Planning Deputate

The Office of the Deputy Director, Theater Assessments and Planning, serves as the key advisor to the Office of the Secretary of Defense for strategic planning, theater-level combat analysis, regional assessments, and the Department's mobility programs (airlift, sealift, and prepositioning). The office works closely with OUSD(P) to produce the Secretary's Defense Planning Guidance; maintains the only modeling and simulation capability for warfare and transportation analysis within the Office of the Secretary of Defense; provides information technology support for PA&E; and leads the analytic community in developing new methods and analysis capabilities. During the Program Review, the office has taken the lead in evaluating mobility programs and associated enroute infrastructure; programs for the Special Operations community; information technology for the Pentagon; key issues from the CINCs as well as coordinating the CINC's involvement in the budget through the Integrated Priority Lists. The office also supports OUSD(P) with quantitative assessments to develop and implement major initiatives in NATO.

Projection Forces Division (PFD) advises the Secretary of Defense on objectives for mobility forces and evaluates the quality of service program proposals to identify opportunities for improving efficiency, productivity, and cost effectiveness. Leads strategic planning by publishes the Secretary's Defense Planning Guidance as well as annual plans and reports under the Government Performance and Results Act (GPRA). The division also provides assessments of combat and support forces for OSD through the use of analytical modeling and simulation via PA&E's Studies and Analysis Center (SAC). PFD is working with the Joint Staff and Services to develop new analytical methods including the next-generation theater-level warfare model, Joint Warfare System (JWARS). Projects include:

- Publishes the Defense Planning Guidance
- Completed analysis for Mobility Requirements Study-2005 with the Joint Staff
- Prepare the GPRA Performance Plan and Report.
- Evaluated C-5 Modernization AoA, AF Tanker Study, WMD Phases I and II
- Review investments to enroute infrastructure and prepositioning worldwide

Planning and Analytical Support Division: The division comprises three subordinate units, Computer Systems and Services (CS&S), Information Management and Analysis Group (IMAG) and Joint Data Support (JDS). CS&S provides all of PA&E's computer support including help desk operations, network operations, and information technology modernization. IMAG develops custom electronic business software for PA&E and supports PA&E staff on special projects. JDS provides data support to joint departmental studies. Projects include:

- Develops and maintains custom analytical and office automation software for the Program Review and Budget Review
- Provides data for analytic models used for transportation and theater-level warfare assessments.
- Assembled and evaluated after-action data from Allied Force
- Develops comprehensive data model and managing data for JWARS

The Regional Assessments and Modeling Division conducts studies and analyses to support U.S. alliances worldwide. Division activities include assessing implications of long term challenges to U.S. security interests; conducting modeling, wargaming, and simulation of regional contingencies; creating and implementing programs to help emerging democracies and developing nations develop civilian-controlled, cost-constrained defense programs; analyzing NATO force requirements and alliance force improvement objectives; overseeing the CINC Integrated Priority List process. Recent activities include:

- Prepared analyses that supported successful implementation of NATO enlargement and the NATO Defense Capabilities Initiative.
- Assisted 20 emerging democracies and developing nations in reforming their defense planning processes.
- Conducted regional great power wargame assessment for 1997 QDR.
- Developed program review proposals that will significantly enhance SOCOM modernization and readiness capabilities



## General Purpose Programs Deputate

The Office of the Deputy Director, General Purpose Programs, serves as the key advisor to the Director, Program Analysis and Evaluation (PA&E) on conventional forces and the programs that support them. In the context of the planning, programming and budgeting system (PPBS), the office assists in preparation of the Defense Planning Guidance (DPG) and performs analyses and evaluations of alternative plans, programs, forces, personnel levels, and budget submissions during the annual review of the defense program and budget. The office also conducts cost-effectiveness and affordability analyses to support reviews of major acquisition programs by the Defense Acquisition Board.

Force Planning Division: The division prepares the Defense Program Projection (DPP), which assesses quantitatively the long-term implications for forces and resources of the Department's near-term policies and programs. The division also conducts studies of selected issues that cut across service and/or mission area boundaries, including:

- Aging trends of major platforms and associated readiness concerns
- Aging trends of the Department's facilities and associated recapitalization needs
- Readiness trends of the services' forces
- Trends in funding key readiness-related accounts and their relationship to force readiness
- Metrics for assessing the overall health of the defense program

Land Forces Division: The division analyzes and evaluates the Department's land forces and associated programs. Its responsibilities include Army and Marine Corps ground and rotary-wing aviation forces. Programmatic responsibilities include both the major platforms and munitions supporting these forces. The division prepares the sections of the DPG providing direction for the execution of land force programs. During the program review, the division assesses the compliance of service-proposed land force programs with extant policy and programmatic decisions. For those cases in which compliance issues are discovered, the division develops alternatives to the service proposals for consideration by the Secretary and Deputy Secretary of Defense. In support of the Under Secretary for Acquisition, Technology, and Logistics, the division prepares guidance for and oversees the conduct of cost-effectiveness analyses (also known as Analyses of Alternatives (AOAs)) for major defense acquisition programs supporting land forces; affordability assessments are also prepared for major programs. The division also conducts studies of selected high-interest issues regarding land forces.

Ongoing and recently completed work includes:

- Analysis of challenges in implementing Army digitization
- Analysis of the marginal cost of army recruiting
- Analysis of the cost-effectiveness of Army short-range air defenses
- Comanche AoA and Comanche affordability assessment
- Crusade AoA
- Advanced Amphibious Assault Vehicle AoA and affordability assessment
- Assessment of Interim Armored Vehicle cost-effectiveness
- Assessment of the adequacy of existing and planned munitions inventories

Naval Force Division: The division analyzes and evaluates the Department's naval forces and associated programs. Its responsibilities include naval surface combatants, attack submarines, amphibious ships, support ships, and maritime patrol aircraft. Programmatic responsibilities include both the major platforms and munitions supporting these forces. The division prepares the sections of the DPC providing direction for the execution of naval force programs. During the program review, the division assesses the compliance of service-proposed naval force programs with extant policy and programmatic decisions. For those cases in which compliance issues are discovered, the division develops alternatives to the service proposals for consideration by the Secretary and Deputy Secretary of Defense. In support of the Under Secretary for Acquisition, Technology, and Logistics, the division prepares guidance for and oversees the conduct of cost-effectiveness analyses (also known as AoAs) for major defense acquisition programs supporting naval forces; affordability assessments are also prepared for major programs. The division also conducts studies of selected high-interest issues regarding naval forces. Ongoing and recently completed work includes:

- Analysis of the cost-effectiveness of converting strategic nuclear submarines to a conventional role
- AoA for replacement maritime patrol aircraft
- AoA for replacement joint command ships
- Affordability assessment for the CVN-X
- Assessment of LPD-17 self-defense needs
- AoA for advanced land attack missile
- Assessment of the adequacy of naval mine warfare programs

Tactical Air Forces Division: The division analyzes and evaluates the Department's tactical air forces and associated programs. Its responsibilities include air force air superiority forces, air force multi-role forces, air force close air support forces, naval multi-role forces, naval airborne surveillance forces, and airborne electronic warfare forces. Programmatic responsibilities include both the aircraft and munitions programs supporting these forces. The division prepares the sections of the DPG providing direction for the execution of tactical air force programs. During the program review, the division assesses the compliance of service-proposed tactical air force programs with extant policy and programmatic decisions. For those cases in which compliance issues are discovered, the division develops alternatives to the service proposals for consideration by the Secretary and Deputy Secretary of Defense. In support of the Under Secretary for Acquisition, Technology, and Logistics, the division prepares guidance for and oversees the conduct of cost-effectiveness analyses (also known as AoAs) for major defense acquisition programs supporting tactical air forces; affordability assessments are also prepared for major programs. The division also conducts studies of selected high-interest issues regarding tactical air forces. Ongoing and recently completed work includes:

- Affordability assessment for the F-22
- Assessment of using the Joint Strike Fighter (JSF) as an alternative to F-22
- Assessment of the adequacy of air-delivered munitions programs
- AoA for JSF
- Assessment of Air Force tactical fighter readiness trends
- Assessment of the costs and effectiveness of stealthy and non-stealthy tactical air forces

5

PA&E is an integral part of the Under Secretary of Defense (Comptroller) component. For detailed information concerning chain of command relationships, etc., please refer to the USD(Comptroller) transition book.



6





Not applicable to PA&E.



7



PA&E's budget is managed as part of the overall OSD budget. Washington Headquarters Services (WHS) Budget and Finance Division allocates and manages the OSD budget for salaries, overtime, training, etc. Please refer to their input for detailed information.

8

1

## CHARACTERISTICS OF CURRENT/AUTHORIZED STAFF

Professional - Clerical Ratio: 128 - 20 (4.4 to 1)

Civilian - Military Professional Ratio: 90 - 38 (2.4 to 1)

### Military Service Distribution:

<u>Army</u>	<u>Navy</u>	<u>Air Force</u>	<u>Marine Corps</u>	<u>Total</u>
8	11	13	6	38

### Average Professional Age:

<u>Civilian</u>	<u>Military</u>	<u>Overall</u>
46	40	44



9



## GRADE STRUCTURE

Deputies and Division Director's are Career SES members; civilian analysts range from GS-11 through GM-15.

Actual grades of civilians are often less than the maximum possible for the position. This is due to the practice of hiring professional personnel below the maximum grade and advancing them as their performance merits and the rules permit.

Most of the career military officers are Major or Lt. Colonel (or comparable) rank.

Secretarial grades are GS-11 for the DPA & E, GS-9 for the Principal Deputy, GS-8 for the Deputies, and, with a few exceptions due to higher level responsibilities, GS-7 for the Divisions.

The current on-board grade structure is:

<u>Civilian</u>		<u>Military</u>	
ES-6	1	Colonel/Navy Capt	2
ES-5	4	LtCol/Cdr	24
ES-4	12	Maj/I.Cdr	7
ES-3	3	Capt/Lt, USN	4
ES-2	0		
ES-1	1		
GM-15	55		
GM-14	5		
GM-13	3		
GS-12	6		
GS-11	3		
GS-9	4		
GS-8	9		
GS-7	$\frac{7}{92}$		

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MAJORS HELD BY PROFESSIONAL STAFF  
CIVILIAN PROFESSIONAL AND MILITARY

20 December 2000

MAJOR	ASSOC	BACHELOR	MASTERS	PhD	TOTAL
Acquisition Logistics	0		2		2
Architecture - Naval	0	2			2
Biochemistry	0	1			1
Biology	0			3	3
Biology	0	1			1
Business Administration	0	4	18		22
Business Administration	0	4	8		12
Chemical Biology	0			1	1
Chemistry	0	9	3	3	15
Chemistry	0	1			1
Chemistry -- Physical	0			2	2
Commerce	0	1			1
Computer Science	0	3			3
Computer Science	0	2			2
Computer Science -- Management	0		2		2
Computer Science -- Management	0	1			1
Econometrics	0		2		2
Economics	0	38	14	14	66
Economics	0	2			2
Education	0	2			2
English	0	4			4
Engr - Computer	0	1			1
Engr - Metallurgical	0	1			1
Engr - Ocean	0		2		2
Engr - Reliability	0		1		1
Engr -- Aeronaut/Astro/Aerospace	0	6	9	4	19
Engr -- Aeronaut/Astro/Aerospace	0	3	1		4
Engr -- Chemical	0	1			1
Engr -- Civil	0	4			4
Engr -- Electrical	0	3	6		9
Engr -- Electrical	0	1	1		2
Engr -- General	0	5			5
Engr -- General	0	7			7
Engr -- Industrial	0	6	2	2	10
Engr -- Industrial	0			2	2
Engr -- Management	0		3		3
Engr -- Management	0		1		1
Engr -- Mechanical	0	7	1		8
Engr -- Mechanical	0	4			4
Engr -- Nuclear	0	5	6	9	20
Engr -- Physics	0	1	3		4
Engr -- Science	0	5			5
Engr -- Systems	0			2	2
Engr -- Systems	0		1		1
Finance	0		2		2
Finance	0	1	2		3
History	0	10			10
History	0	1			1
Human Resources Management	0		1		1
Industrial Engineering	0	1			1
Info Systems Mgmt	0	2	1		3
Info Systems Mgmt	0	1	1		2
Information Technology	0			1	1
International Affairs	0	1	1		2

MAJOR	ASSOC	BACHELOR	MASTERS	PhD	TOTAL
International Relations	0			2	2
International Studies	0	1			1
Labor Economics and Economic Dev	0			1	1
Language	0	1			1
Management - Personnel	0		1		1
Management -- Business	0	3			3
Management -- Business	0	1	1		2
Management -- General	0		7		7
Management -- General	0		2		2
Mathematics	0	21	12	12	45
Mathematics	0	1			1
Mathematics - Applied	0	1	1		2
Mathematics - Applied	0	1			1
National Resource Strategy	0		3		3
National Security Studies	0		4		4
National Security Studies	0	1			1
Oceanography	0	1			1
Oper Res/Sys Anal	0		19	4	23
Oper Res/Sys Anal	0	1	14	1	16
Operations Analysis-Eng	0		3		3
Physics	0	18	3	7	28
Physics	0	2	1		3
Physics - Applied	0			1	1
Physics - Nuclear	0			1	1
Political Science	0	5			5
Public Admin	0		8		8
Public Finance	0		2		2
Public Policy	0		5		5
Science -- Military	0		1		1
Security Policy Studies	0		1		1
Sociology	0	5	3	1	9
Strategic Studies	0		1		1
Strategic Studies	0		2		2
Systems Mgmt	0		3		3
Systems Mgmt	0		2		2
Systems Technology	0		1		1
	0	215	194	73	482



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UNIVERSITIES ATTENDED BY STAFF  
CIVILIAN PROFESSIONAL AND MILITARY

20 December 2000

UNIVERSITY	ASSOC	BACHELOR	MASTER	PhD	TOTAL
Adelphi University	0	1			1
Air Force Inst of Technology	0		15	1	16
Alabama A&M	0	1			1
American University	0	1			1
Amherst College	0	2			2
Arizona, Univ of	0	1	1	1	3
Bennington College	0	1			1
Berea College	0	2			2
Boston University	0	1			1
Bradley Univ	0	3			3
Calif Inst of Tech	0	7			7
Calit, Univ/Berkeley	0			1	1
Calif, Univ/Irvine	0			2	2
Calif, Univ/LA	0	5	2		7
California State Polytechnic at San Luis	0	1			1
Carnegie Mellon Univ	0			2	2
Central Florida, Univ of	0	1			1
Central Michigan Univ	0		3		3
Chicago, Univ of	0		6	6	12
Cincinnati, Univ of	0	1			1
Citadel	0	4			4
Colorado, Univ of	0	5	2		7
Columbia Univ	0	2		2	4
Cornell Univ	0	2			2
Dayton, Univ of	0		1		1
Duke Univ	0		1		1
Embry Riddle Aero Univ	0		3		3
Florida Inst Tech	0		2		2
Florida Tech Univ	0		2		2
Florida, Univ of	0			1	1
George Mason University	0		2	1	3
George Wash Univ	0	2	9	3	14
Georgetown Univ	0	2	4	2	8
Georgia Tech	0	2	7		9
Harvard College	0	3			3
Harvard Univ	0	4	6	5	15
Harvey Mudd College	0	3			3
Illinois, Univ of	0		5	3	8
Indiana University	0		5		5
Industrial College of the Armed Forces	0		2		2
John Carroll Univ	0	4			4
Johns Hopkins Univ	0		2		2
Kentucky, Univ of	0	3	3		6
Kutztown Univ	0	2			2
Lehigh Univ	0	2	2	2	6
London School of Economics	0		3		3
Louisiana Baptist Univ	0	1			1
Marquette Univ	0	3			3
Maryland, Univ of	0	7	5	5	17
Mass Inst of Tech	0	9	14	10	33
Massachusetts, Univ of	0	1			1
Miami, Univ of	0			1	1
Michigan State Univ	0	2	2		4
Michigan, Univ of	0	1	3	2	6
Minnesota, Univ of	0	1			1
Missouri, Univ of	0	1			1
National Defense Univ	0		1		1

UNIVERSITY	ASSOC	BACHELOR	MASTER	PhD	TOTAL
National Taiwan Univ	0	3			3
New Mexico State Univ	0		1		1
New York Univ	0	1	1		2
North Carolina State University	0			2	2
North Georgia College	0	1			1
Notre Dame, Univ of	0	1			1
Oberlin College	0	6			6
Occidental College	0	4			4
Oklahoma State Univ	0		1		1
Oklahoma, Univ of	0	2			2
Old Dominion Univ	0	2	1	1	4
Oregon State Univ	0		2	2	4
Oregon, Univ of	0	1			1
Oslo, Univ of	0		2		2
Oxford, Univ of	0	2			2
Pennsylvania State University	0	2			2
Pennsylvania, Univ of	0		3		3
Pittsburgh, Univ of	0	2			2
Potomac College	0	1			1
Princeton	0		2	1	3
Purdue Univ	0	5	1		6
Rand Graduate School	0		1		1
Rensselaer Polytech	0	3	5		8
Rhode Island, Univ of	0	2			2
Rhodes College	0	2			2
Rose Polytechnic Institute	0	5			5
Rutgers Univ	0		3		3
Simmons College	0	1			1
Southern Calif, Univ of	0	1	2		3
Stanford Univ	0		4	2	6
State University of New York (SUNY)	0	2			2
Stevens Inst of Tech	0	2	2		4
Syracuse Univ	0		6		6
Temple Univ	0	2			2
Tennessee Tech Univ	0	1			1
Tennessee, Univ of	0	1	2		3
Texas A&M	0	2	1		3
Texas, Univ of	0	5	2	2	9
Toronto, Univ of	0	3			3
Tri-State Univ	0	3			3
Troy State Univ	0	1	2		3
Tunghai Univ	0	2			2
US AF Academy	0	3			3
US Army Command & General Staff College	0		3		3
US Military Academy	0	17			17
US Naval Academy	0	10	1		11
US Naval PG School	0		11		11
US Naval War College	0		6		6
Virginia, Univ of	0	5	3	4	12
VPI	0	10	3		13
Washburn Univ of Topeka	0	1			1
Washington Univ	0	1		3	4
Webster College	0		2		2
Western Florida, Univ of	0		3		3
Western New England College	0		2		2
William & Mary	0	3			3
Wisconsin, Univ of	0		3	3	6
Yale Univ	0			3	3
	0	215	194	73	482

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## PA&E Transition Briefing

In preparation for the transition and the Quadrennial Defense Review, PA&E has assembled a briefing describing the Department's long term fiscal outlook, details of key programs and potential shortfalls in them, and alternatives to the current programs. This briefing is available for presentation and discussion when needed. The following paragraphs summarize the briefing.

The Department's long-term fiscal overview is described by the Defense Program Projection (DPP), which PA&E develops. The DPP uses the current FYDP program as a baseline, then extrapolates that program twelve more years (two additional FYDP cycles) to predict long-term spending needs. Focusing on major procurement programs, the DPP compares the expected service lives of existing force elements to long-term force level needs, to evaluate whether current procurement programs are adequate or whether large bills may be looming beyond the FYDP. In addition, the DPP provides an assessment of the adequacy of operations and support funding, which may signal shortfalls in readiness funding. The DPP has been a key component of many Department analyses, including affordability analyses for acquisition programs, the annual program review process, and, particularly, the 1997 Quadrennial Defense Review.

The PA&E briefing also describes key programs within the Department. It highlights several of the most important programs - those for which near-term decisions will be needed or for which substantial fiscal shortfalls might be imminent. These programs are likely to be ones that will demand the most immediate attention. The briefing then goes beyond those programs to describe all of the important programs in the Department. These include:

- modernization programs and their R&D and procurement funding and quantities
- readiness programs and important initiatives aimed at sustaining and improving readiness levels
- quality-of-life issues, such as medical and benefits.

For each program, the brief provides a single-slide description of the subject, possible issues associated with it, the current funding profile, and, if appropriate, alternatives to the current program that might warrant consideration.

Finally, beyond the one-page summaries in this brief, PA&E has assembled a large library describing - in detail - the major Department programs. Briefings are available on topics including: readiness; medical; missile defense; TAC AIR; Army transformation and modernization; ship building; space and satellite programs; intelligence, surveillance, reconnaissance; and information assurance and information technology.