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Report to Chairman, House Committee on Appropriations; Chairman, Senate Committee on Appropriations; by Elmer B. Staats, Comptroller General.

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The Department of Defense (DOD) has many areas where waste occurs. A review of military, military assistance, and defense-related activities and weapon systems revealed areas that need improvement. Findings/Conclusions: Appropriations required for the World-Wide Military Command and Control System may be reduced if the DOD exercises more effective management. There is unnecessary use of transmittal of messages. The Federal warning systems are proliferating ineffectively. The automated payroll systems need to be standardized and a contributory retirement system might be adopted. Too many facilities are being constructed to support reserve forces and facilities management is inefficient, including the management of repair facilities. Millions could be saved annually and productivity increased if military support functions in the Pacific were consolidated. Continued support to allies from stocks procured or held for support of U.S. forces will cause varying degrees of degradation in the readiness of the forces. Contingency planning for emergency logistics support to allies and the logistics management structure needs improvement. Management of personnel and material deployment needs improvement. Testing programs and reserve training should be revised to avoid duplication and wasted time. The Indochinese refugee program was generally successful. The review of the automatic data processing defense-related activities pinpointed areas of inefficient management and recommended standards to guide the programs. Better management is needed in government labs, in controlling costs of NATO troops, in overseas military banking programs, and in radio spectrum. (SS)

50088



*REPORT TO THE  
HOUSE AND SENATE  
COMMITTEES ON APPROPRIATIONS  
BY THE COMPTROLLER GENERAL  
OF THE UNITED STATES*

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Summaries Of Conclusions And  
Recommendations On Department  
Of Defense Operations



COMPTROLLER GENERAL OF THE UNITED STATES  
WASHINGTON, D.C. 20548

B-106190

Chairman, Senate Committee on Appropriations  
Chairman, House Committee on Appropriations

This annual report summarizes GAO conclusions and recommendations resulting from our audits and other review work in the Department of Defense which we believe will be of interest to your Committees in their review of budget requests for fiscal year 1978. Our reports have previously brought these matters to the attention of the Congress and departmental officials. We have not included suggested questions to be asked in appropriations hearings; however, we will suggest specific questions on the items summarized if you desire.

A report of conclusions and recommendations concerning the Federal civil departments and agencies is being submitted separately.

We are sending copies of this report to the Department of Defense and the military departments, so they may be in a position to answer any inquiries made on these issues during the appropriations hearings.

A handwritten signature in black ink, reading "James B. Stacks".

Comptroller General  
of the United States

C o n t e n t s

CHAPTER

Page

1

NATIONAL DEFENSE

1

PART ONE: DEPARTMENT OF DEFENSE--MILITARY

1

Command and Control

World-Wide Military Command and  
Control System (WWMCCS)  
Department of Defense

1

Communications

2

Review of the Need for Electronic  
Transmission of Narrative  
Messages and the Reproduction of  
Message Copies at Military Com-  
munications Centers  
Department of Defense

2

Need to Control Federal Warning System  
Proliferation

Department of Defense and National  
Oceanic and Atmospheric Adminis-  
tration

3

Compensation

4

Standard Automated Payroll System for  
Civilian Personnel

Department of the Army

4

Savings Possible by Adoption of a Con-  
tributory Retirement System for  
Military Personnel

Department Of Defense

4

Construction

6

Construction of Facilities to Support  
the Reserve Forces

Department of Defense

6

Facilities Management

Improvements Needed in Operating and  
Maintaining Waste Water Treatment  
Plants

Department of Defense

7

Maintenance, Repair, and Overhaul

9

Deficiencies in SH-3H Helicopter Con-  
version Program

Department of the Navy

9

Improving Depot Maintenance of Combat  
and Tactical Vehicles

Department of Defense

10

1	Navy Aircraft Overhaul Depots Could Be More Productive Department of the Navy	11
	Improvements Needed in the Navy's Fleet Modernization Program Department of the Navy	12
	The Army's Field Level Equipment Modification Program Department of the Army	13
	Maintenance Program for Construction Equipment in the Army Department of Defense	14
	Assessment of the Air Force's Plan- ning for the Technology Repair Center Concept Department of Defense	15
	Major Cost Savings Can Be Achieved by Increasing Productivity in Real Property Management Department of Defense	16
	Organization	18
	Millions Could Be Saved Annually and Productivity Increased if Military Support Functions in the Pacific Were Consolidated Department of Defense	18
	Army Plans to Realign the Armament Com- munity Department of the Army	20
	Readiness	
	Equipment Shortages: A Result of Emergency Support of U.S. Allies Department of Defense	21
	Flying Hour Programs of the Military Services: Opportunities for Improved Management Department of Defense	22
	Readiness of First Line U.S. Combat Armored Units in Europe Department of the Army	23

1	Continuing Problems with U.S. Military Equipment Prepositioned in Europe	24
	Department of Defense	
	Army Contingency Planning for the Pacific Theater	25
	Department of the Army	28
	Supply Distribution	28
	The Army Should Evaluate Cost Effectiveness of the Direct Sup- port System and Make Needed Improvements	28
	Department of the Army	30
	Supply Management	30
	The F-15 Is an Example of How Weapon Systems Support Costs Can Be Reduced	30
	Department of the Air Force	31
	The Department of Defense Can Improve Its Free-Asset Management	31
	Department of Defense	32
	Defense Supply Agency Could Reduce War Reserve Requirements for Medical Items	32
	Department of Defense	34
	Developing Equipment Needs for Army Missions Requires Constant At- tention	34
	Department of the Army	35
	Department of Defense Stock Funds' Declining Financial Position	35
	Department of Defense	36
	Greater Use of Commercial Dis- tribution Systems for Minor, Low- Use Supply Items Can Reduce De- fense Logistics Costs	36
	Department of Defense	38
	Testing	38
	Department of Defense Test Capacity	38
	Department of Defense	38
	Opportunities for the Navy to Reduce Its Requirements for Avionics Testing Systems	39
	Department of the Navy	39

1	Training	41
	Need to Improve the Efficiency of Reserve Training	
	Departments of Defense and Transportation	41
	Transportation	43
	Questionable Use of the Domestic Aeromedical Evacuation System	
	Department of Defense	43
	Use of Appropriated Funds to Pay for the Transportation of Armed Forces Exchange Goods	
	Department of Defense	44
	PART TWO: MILITARY ASSISTANCE	46
	Indochinese Refugee Program	46
	Evacuation and Temporary Care Afforded Indochinese Refugees--Operation New Life	
	Departments of Defense and State	46
	PART THREE: DEFENSE-RELATED ACTIVITIES	48
	Automatic Data Processing	48
	Automated Support of Depot Operations Could Be Improved	
	Department of Defense	48
	Use of Minicomputers in the Federal Government: Trends, Benefits, and Problems	
	Government-wide	49
	Improvements Needed in Managing Automated Decisionmaking by Computers Throughout the Federal Government	
	Government-wide	50
	Computer-Related Crimes in Federal Programs	
	Government-wide	51
	Managers Need to Provide Better Protection for Federal Automatic Data Processing Facilities	
	Government-wide	52
	Ways to Improve Management of Federally Funded Computerized Models	
	Government-wide	53

1	Government Laboratories	55
	More Improvements Needed in Equipment Management Prac- tices in Government Lab- oratories	
	Department of Defense	55
	North Atlantic Treaty Organization	57
	Additional Costs of Stationing U.S. Forces in Europe	
	Department of Defense	57
	Overseas Military Banking	58
	Overseas Military Banking: How It Is Financed and Managed	
	Department of Defense	58
	Radio Spectrum Management	60
	Further Opportunities to Improve Radio Spectrum Management in the Federal Sector	
	Government-wide	60
	Renegotiation Board	62
	Improvements Needed in Profit Limita- tion Legislation	
	Government-wide	62
	<b>PART FOUR: WEAPON SYSTEMS</b>	<b>64</b>
	Cost-Effectiveness Studies	64
	Improvements Needed in Cost-Effectiveness Studies for Major Weapons Systems	
	Department of Defense	64
	Individual System Studies	65
	F-14A/Phoenix Weapon System	
	Department of Defense	65
	Field Army Air Defense	
	Department of Defense	66
	Should the Gama Goat Be Improved or Replaced?	
	Department of the Army	67
	Acquisition of a New Main Battle Tank	
	Department of Defense	67
	Selected Acquisition Reports	7
	How to Improve the Selected Acquisition Reporting System	
	Department of Defense	70



CHAPTER	<u>Page</u>
Testing	71
Effectiveness of Testing Selected Major Weapon Systems Department of Defense	71
<b>PART FIVE: DEPARTMENT OF DEFENSE--PROCUREMENT AND CONTRACTS</b>	<b>73</b>
Procurement	73
Alleged Overobligation in the Fiscal Year 1972 Appropriation for Other Procurement, Army Department of the Army	73
Contracts	75
Independent Research and Development Department of Defense	75
Use of the MITRE Corporation Department of Defense	76
<b>2      <u>GENERAL SCIENCE, SPACE, AND TECHNOLOGY</u></b>	<b>78</b>
<b>PART ONE: MANNED SPACE FLIGHT</b>	<b>78</b>
Space Transportation	78
Status and Issues Relating to the Space Transportation System Department of Defense and National Aeronautics and Space Administration	78
<b>PART TWO: SUPPORTING SPACE ACTIVITIES</b>	<b>80</b>
Satellite Launches	
The United States Should Recover Full Costs of Reimbursable Satellite Launches Department of Defense and National Aeronautics and Space Administration	80
<b>3      <u>NATURAL RESOURCES, ENVIRONMENT, AND ENERGY</u></b>	<b>81</b>
<b>PART ONE: WATER RESOURCES AND POWER</b>	<b>81</b>
Benefit-Cost Analyses	81
Improvements Needed in Making Benefit- Cost Analyses for Federal Water Resources Projects Department of the Army (Corps of Engineers)	81

	PART TWO: CONSERVATION AND LAND MANAGEMENT	84
	Wildlife Conservation	84
	Improved Federal Efforts Needed to Consider Wildlife Conservation on an Equal Basis with Other Features of Water Resources Developments	
	Department of the Army (Corps of Engineers)	84
4	<u>COMMERCE AND TRANSPORTATION</u>	86
	WATER TRANSPORTATION	86
	Inland Waterways	86
	Factors to Be Considered in Setting Future Policy for Use of Inland Waterways	
	Department of the Army (Corps of Engineers)	86
	Federal Efforts to Extend Winter Navigation on the Great Lakes and the St. Lawrence Seaway--Status and Problems to Be Resolved	
	Department of the Army (Corps of Engineers)	87
5	<u>GENERAL GOVERNMENT</u>	89
	GENERAL PROPERTY AND RECORDS MANAGEMENT	89
	Records Management	89
	Opportunities for Reducing Office Copier Costs in Multiagency Federal Buildings	
	Government-wide	89

ABBREVIATIONS

ADP	automatic data processing
AID	Agency for International Development
B&P	bids and proposals
DOD	Department of Defense
DODI	Department of Defense Instruction
DSARC	Defense Systems Acquisition Review Council
GAO	General Accounting Office

GSA	General Services Administration
IR&D	independent research and development
MOFAST	Mechanization of Freight Packing and Shipping Terminal
MOWASP	Mechanization of Warehousing and Shipment Processing
NATO	North Atlantic Treaty Organization
NASA	National Aeronautics and Space Administration
OMB	Office of Management and Budget
SAMMS	Standard Automated Materiel Management System
SAR	selected acquisition reporting
WWMCCS	World-Wide Military Command and Control System

## CHAPTER 1

### NATIONAL DEFENSE

#### PART ONE: DEPARTMENT OF DEFENSE--MILITARY

##### COMMAND AND CONTROL

##### World-Wide Military Command and Control System (WWMCCS)

###### Department of Defense

The mission of WWMCCS, as outlined in Department of Defense Directive 5100.30, is to provide information to the National Command Authorities and Commanders of Unified and Specified Commands so that appropriate and timely decisions may be made. The system, therefore, must collect, process, and disseminate a large volume of diverse information that is required to help commanders at all levels make the required decisions in a timely manner. This information is a resource and must be adequately managed and protected from unauthorized use.

GAO reported that the system's management should address the need for improving (1) computer security and (2) the effectiveness and efficiency of internetting between computers in its automatic data processing (ADP) operations. GAO also reported that the machine dependency of part of the system may limit competitive acquisitions of future ADP equipment.

GAO suggested that the system's management evaluate the cost, schedule, and technical parameters of feasible alternatives to assure that user requirements will be met in the most economical manner (LCD-75-116, July 21, 1975). Defense indicated that it would conduct evaluations.

##### Appropriations

Research and Development (Army, Navy, Air Force)  
Procurement (Army, Navy, Air Force)  
Operation and Maintenance (Army, Navy, Air Force)

##### Issue for consideration by the Committees on Appropriations

Appropriations required for WWMCCS may be reduced if the Department of Defense exercises more effective management.

## COMMUNICATIONS

### Review of the Need for Electronic Transmission of Narrative Messages and the Reproduction of Message Copies at Military Communications Centers

#### Department of Defense

The Department of Defense Automatic Digital Network (AUTODIN) is a computer-controlled communications system with about 900 communications centers. These centers process three basic types of messages--data card, magnetic tape, and narrative. Most messages are sent and received by data card or magnetic tape and require little processing. However, narrative messages require extensive manual processing, such as retyping, proofreading, and inserting into the AUTODIN terminal for transmission.

GAO reported that some narrative messages could have been mailed instead of being electronically transmitted. For example, at six telecommunication centers about 19 percent of the outgoing narrative messages could have been mailed (saving about \$149,000 annually). GAO estimated that reductions ranging from 5 percent to 40 percent in the number of narrative messages electronically transmitted by 835 military telecommunications centers could result in annual personnel savings of \$1.8 to \$15.7 million.

GAO also reported that naval communication centers were reproducing and distributing unnecessary copies of narrative messages.

GAO recommended that the Department of Defense require (1) message releasers to become familiar with their responsibilities and (2) military departments to review regulations, directives, and policies for any unnecessary requirements to electronically transmit messages and to reproduce and distribute copies of these messages.

The Department of Defense generally agreed with our findings and recommendations. (LCD-76-101, Oct. 10, 1975, and LCD-76-107, Dec. 4, 1975)

#### Appropriations

##### Military Personnel (Army, Navy, Air Force)

GAO note: The "dots" (●) throughout this report are merely to help the reader locate new subsections when there are two or more subsections within a section.

Issue for consideration by the  
Committees on Appropriations

The appropriations required for operating telecommunications centers could be reduced by eliminating unnecessary electronic message transmissions.

● Need to Control Federal  
Warning System Proliferation

Department of Defense and National Oceanic  
and Atmospheric Administration

GAO's report to the Congress discussed interagency efforts to coordinate development and operation of Federal warning dissemination systems which alert the public of natural disasters and enemy attacks. However, much remains to be done to prevent proliferation and achieve an integrated national program.

Five Federal warning systems are being developed, expanded, or operated. Three of these systems--a satellite warning system, a high-speed nuclear attack radio warning system, and a teletype system--do not appear to be operationally or economically justified. If unchecked, \$140 million may be spent by 1980 to develop and operate these three systems.

A linkup of the Defense Department's National Warning System with the Weather Radio Warning System--already selected as the Federal home warning system--appears adequate. Several Federal agencies will need to define and consolidate all national warning requirements and determine which of several alternative systems should be deployed to meet the requirements in the most operationally useful and cost-effective manner. (LCD-76-105, Apr. 9, 1976)

Appropriations

This activity involves various appropriation categories of the Department of Defense (Defense Civil Preparedness Agency and Department of the Army) and the National Oceanic and Atmospheric Administration, including research and development, procurement, construction, operations, and personnel.

Issue for consideration by the  
Committees on Appropriations

The Committees may want to consider funding constraints on the Department of Defense and civil agencies for certain

natural disaster and attack warning systems, pending definition of the recommended integrated national program.

## COMPENSATION

### ● Standard Automated Payroll System for Civilian Personnel

#### Department of the Army

In fiscal year 1975, the U.S. Army Military District of Washington's automated payroll system processed pay and allowances of about \$383 million for 24,000 employees.

GAO reported to the Congress that because of weaknesses in the District's computerized payroll system, it could not be relied upon to produce an accurate payroll or to protect the Government from improper payments. The Army had taken or planned to take actions on GAO's recommendations to assure that the civilian payroll system included minimum standards of internal controls.

Recognizing the need to improve civilian payroll systems, the Department of Defense directed each military department to develop its own standard civilian payroll system. The Army's standard system was to be used as a model for an eventual Department of Defense-wide standard system. The Department estimated that savings of \$40 million over the estimated 7-year life of the new system would be possible if the system is operated on a regional basis. (FGMSD-75-26, Oct. 9, 1975)

#### Appropriations

Operation and Maintenance (all Defense organizations)

#### Issue for consideration by the Committees on Appropriations

The Committees may wish to determine the Department of Defense's progress in developing and implementing one standardized civilian payroll system.

### ● Savings Possible by Adoption of a Contributory Retirement System for Military Personnel

#### Department of Defense

Military retirement costs are increasing sharply. In fiscal year 1976 the retired military population reached 1.1 million

members who received an estimated \$6.9 billion in payments. Partly because of this cost increase, the Department has proposed legislative reform of the military retirement system. The proposal, which does not include a contributory feature, will allow Defense managers to closely control the number of military personnel who become eligible for retirement pay. This would eventually reduce retirement costs. No action had been taken by the Congress on this proposal (H.R. 7769) as of September 1976.

GAO reported to the Defense Task Force, Senate Budget Committee, on the issue of a contributory retirement system for military personnel. The report identified the advantages and disadvantages, cost implications, and the issues to be resolved. GAO estimated that about \$1 billion could be saved the first year under such a system, assuming the same benefits as the present system and no retirement fund, if military personnel were to contribute 7 percent of their basic pay towards retirement costs. Varying the factors and assumptions can result in lesser savings or even increased costs. (FPCD-76-43, Mar. 4, 1976)

### Appropriations

Military Personnel (Army, Navy, Air Force, Marine Corps)

### Issues to be considered by the Committees on Appropriations

1. Significant savings are possible by adopting a contributory retirement system for military personnel. The Department of Defense, in conjunction with the Office of Management and Budget, should reconsider incorporating a contributory feature in proposed legislative reform of the retirement system.

2. Guidance from the Congress should be provided the Department of Defense and Office of Management and Budget on unresolved issues pertaining to adopting a contributory retirement system, such as

- how contributions should be computed,
- whether a retirement fund should be established,
- whether pay should be increased to offset contributions,
- when vesting rights should be granted, and
- whether the military retirement system should be integrated with social security.



## CONSTRUCTION

### Construction of Facilities to Support the Reserve Forces

#### Department of Defense

The Congress appropriated over \$727 million in fiscal years 1972-76 as part of a 10-year program to reduce the Reserve Forces' construction projects backlog.

GAO reported to the Congress specific instances where the Reserve Forces started or completed, and were also planning, unnecessary construction projects. GAO pointed out that Reserve Forces facilities could be obtained faster and cheaper by making greater use of existing facilities and by constructing more joint-use facilities. GAO concluded that the Reserve Forces' construction backlog included unnecessary projects and that the internal Defense process for reviewing and approving construction projects needed strengthening.

Defense officials generally disagreed with GAO's conclusions and recommendations. While acknowledging that certain weaknesses existed in their construction project review and approval process, they stated that no unwarranted projects had been approved or constructed. However, GAO specifically identified 15 completed or in-process construction projects for which there were cheaper, viable alternatives. These projects had an estimated construction cost of over \$10 million. (LCD-75-309, June 11, 1976)

#### Appropriations

Military Construction (Army Reserve, Army National Guard, Naval Reserve, Marine Corps Reserve, Air Force Reserve, Air National Guard)

#### Issues for consideration by the Committees on Appropriations

Military construction expenditures for new Reserve Forces facilities could be reduced, or applied more effectively, if the Reserve Forces made greater use of existing vacant or underutilized facilities and constructed joint-use facilities where appropriate.

## FACILITIES MANAGEMENT

### Improvements Needed in Operating and Maintaining Waste Water Treatment Plants

#### Department of Defense

During fiscal years 1968 through 1976, the Congress appropriated about \$263 million to Defense for improvements to waste water treatment plants and connections to public sewage systems. Budget estimates for construction in fiscal years 1977 and 1978 are \$56 million and \$79 million, respectively. Operation and maintenance costs for fiscal year 1975 were \$44 million.

GAO reported that many Defense waste water treatment facilities did not meet required water quality standards and that the Department had not taken measures to insure compliance by July 1, 1977.

Because the effectiveness of the Defense waste water treatment program was seriously impaired by problems of design, operation, and maintenance of facilities, GAO recommended that the Secretary of Defense direct the Secretaries of the Army, Navy, and Air Force to establish the necessary controls for insuring that waste treatment facilities comply with effluent limitations and water quality standards.

Defense should have the military services:

- Determine the capabilities of all treatment plants and the improvements needed to meet effluent limitations and water quality standards.
- Price out, budget for, and program improvements in laboratory equipment, staff, and training that would bring plants into compliance with applicable water quality standards.
- Monitor the progress of improvements by using internal operating reports and evaluations made by the Environmental Protection Agency and environmental groups within Defense.

Defense generally agreed with GAO's recommendations and said it would emphasize the requirements of Executive Order 11752 and the actions needed to conform with the applicable effluent limitations and water quality standards.

The Environmental Protection Agency concurred with GAO's recommendations to the Secretary of Defense and said that proper staffing and staff training, preventive maintenance programs, replacement of obsolete equipment, and implementation of adequate laboratory testing programs should be emphasized. (LCD-76-312, June 18, 1976)

Appropriations

Military Construction (Army, Navy, Air Force)  
Operation and Maintenance (Army, Navy, Air Force)

Issue for consideration by the  
Committees on Appropriations

Defense may need funds above the current annual level of \$60 to \$80 million to meet the 1985 national goal of eliminating the discharge of pollutants from its installations into navigable waters.

## MAINTENANCE, REPAIR, AND OVERHAUL

### ● Deficiencies in SH-3H Helicopter Conversion Program

#### Department of the Navy

In classified letter reports to the House and Senate Committees on Armed Services and Appropriations, GAO reported that the Navy's SH-3H conversion program had several deficiencies. The primary problems were:

- The modification program was producing an overloaded helicopter with insufficient power and endurance.
- The Navy planned to eliminate mission-essential equipment with resulting degradation in anti-submarine warfare performance.
- The Navy's Operational Test and Evaluation Force found the operational suitability of the helicopter to be unsatisfactory.
- Users complained of the low reliability/availability.
- The helicopter lacks an adequate communications system for tactical information.
- The S-3A might be unable to fulfill its interim mission requirements.

On March 8, 1976, during the House Appropriations Subcommittee hearings on the Defense budget request for fiscal year 1977, the Navy was questioned on actions taken to correct problems mentioned in GAO's report. (PSAD-75-101, July 1, 1975)

The Navy reported that (1) it was budgeting \$29.5 million for the SH-3H conversion of 12 helicopters for fiscal year 1977, (2) funds were being realigned to allow for rapid development of improved avionics, (3) weight had been reduced by removing some avionics and heavy cargo decking, (4) endurance had been improved by introducing a fuel cell, (5) new tactical navigation equipment had been installed, and (6) the on-board acoustic processing had been improved. (PSAD-75-98, -100, -101, and -102, July 1, 1975)

#### Appropriation

Procurement (Navy)

Issues for further consideration by the  
Committees on Appropriations

The Committees may wish to consider the:

- Appraisal of operational unsuitability by the Operational Test and Evaluation Force.
- Low reliability/availability of the SH-3H.
- Feasibility of the S-3A fulfilling the interim role of the SH-3H.
- Lack of adequate testing on which to base further conversion decisions.

● Improving Depot Maintenance of  
Combat and Tactical Vehicles

Department of Defense

Defense spends about \$20 billion annually maintaining its equipment. Much of the Army's maintenance efforts and expenditures are spent on repair and overhaul of combat and tactical vehicles.

GAO selected maintenance programs of the Red River Army Depot, which is the Army's prime facility for repair and overhaul of major end-items and components. During fiscal year 1974, the depot spent \$41,519,362 on repair and overhaul of several commodities, 75 percent of which was associated with combat and tactical vehicles. Since the U.S. Army Tank-Automotive Command is responsible for managing the worldwide inventory of these items and the Major Item Data Agency is responsible for scheduling the workloads into the repair depots, GAO also did limited reviews at these installations.

GAO found that the Major Item Data Agency assigned more work to the depot than it could handle, thereby hindering repair parts projection and effective use of personnel.

Also, the depot was not managing its maintenance programs effectively. GAO reported to the Secretary of Defense that internal maintenance operations at Red River could be improved by:

- Accurately predicting repair parts required for maintenance programs in order to minimize work stoppages.

--Establishing tighter security and recordkeeping on repair parts used to repair these vehicles. Additionally, increased cost integrity for the various maintenance programs worked should assist in identifying cost overruns.

--Eliminating quality assurance work on U.S. vehicles that is purely cosmetic.

--Ensuring that the depot not exceed the amount of funds authorized for repairing or overhauling vehicles without specific Army approval.

The Army agreed with GAO's findings and recommendations and stated that corrective actions on workloading, repair parts security, cost accounting, and quality assurance would be taken by revising pertinent regulations and procedures. (LCD-75-424, Sept. 3, 1975)

### Appropriation

Operation and Maintenance (Army)

### Issue for consideration by the Committees on Appropriations

In light of the problems associated with managing inventory, scheduling workload, and operating depots, more effective coordination is needed between the depots and both the Tank-Automotive Command and the Major Item Data Agency.

### ● Navy Aircraft Overhaul Depots Could Be More Productive

#### Department of the Navy

The Navy operates six naval air rework facilities nationwide at an annual cost of \$693 million.

GAO reported to the Congress that there was substantial excess industrial capacity at these facilities and that major improvements were needed in both their production control systems and component repair programs.

GAO recommended that to reduce the substantial excess capacity at these facilities, the Secretary of Defense should (1) consider operating them more than one 40-hour shift a week, (2) establish accurate mobilization needs,

(3) consolidate the excess capacity, and (4) concentrate on modernizing only those facilities with long-term value.

Defense officials generally agreed that large savings could be realized by improving the management and operation of these facilities. (LCD-75-432, Dec. 23, 1975)

### Appropriation

Operation and Maintenance (Navy)

### Issues for consideration by the Committees on Appropriations

1. Substantial productivity improvements in maintenance at all levels in each service can result from better statements of mobilization needs.

2. Existing excess capacity should be used to improve interservicing of similar Defense articles and/or greater centralization of maintenance management of common weapon and support systems.

3. Depot modernization funds may be more effectively applied if the Department of Defense sizes its depot complex in line with realistic mobilization needs.

### ● Improvements Needed in the Navy's Fleet Modernization Program

#### Department of the Navy

During fiscal years 1974-77 the Navy budgeted about \$2.2 billion to modernize fleet capabilities by procuring and installing improved equipment. Funds to procure the equipment came from the Other Procurement (Navy) appropriation, and installation funds came from the Operation and Maintenance (Navy) appropriation.

GAO reported to the Congress that the Navy does not have a configuration management system to show the completed and outstanding modernization work for each ship. As a result, it cannot readily determine how much outstanding work and equipment is frequently purchased without considering whether installation funds are available. Consequently, when equipment becomes available it is frequently not installed because operation and maintenance funds are insufficient.

Also, the Navy was unable to determine from its onhand inventory records which items were purchased for the fleet modernization program. The Navy could not determine

whether onhand equipment could be used to offset planned future procurement or whether it should be scheduled for installation or for application to other programs.

GAO recommended that the Secretary of the Navy insure that the Navy:

- Develop and submit backup data which would relate annual procurement requests to planned installation costs.
- Establish controls over the equipment inventory on hand and relate it to equipment to be installed, thereby forming a basis for balancing future installations with additional procurements.

The Navy concurred with GAO's recommendations and stated that actions were being taken or planned to carry them out. (LCD-76-406, Mar. 15, 1976)

### Appropriations

Other Procurement (Navy)  
Operation and Maintenance (Navy)

### Issue for consideration by the Committees on Appropriations

A credible configuration management system is an essential management tool for insuring the effective modernization of weapon systems at the lowest possible costs.

### ● The Army's Field Level Equipment Modification Program

#### Department of the Army

The Army spends millions of dollars each year modifying its many combat and tactical vehicles.

GAO reported to the Secretary of Defense that modifications to be installed by Army field maintenance personnel were not applied in a timely manner. As a result, modifications were eventually rescinded before they were completely applied to all Army equipment. GAO found that the Army's Tank-Automotive Command had on two occasions in the last 5 years rescinded a total of 116 modifications. GAO estimated that the command's most recent rescission resulted in \$3.5 million worth of modification kits being declared excess.

GAO recommended that the Secretary of Defense require the Army to



- get its commanders to install modifications promptly,
- improve controls over modification material,
- develop reliable management reports so that they can be used for effective workload scheduling, and
- strengthen modification approval procedures to guard against nonessential modifications being approved.

The Army generally agreed with GAO's recommendations and said actions were underway to improve management control over the program. (LCD-76-435, May 4, 1976)

### Appropriations

Procurement (Army)  
 Operation and Maintenance (Army)

### Issues for consideration by the Committees on Appropriations

1. Costs for new modifications could be reduced if approval procedures were strengthened to guard against nonessential modifications being approved.
2. Procedures need to be developed to assure that field maintenance personnel apply modifications in a timely manner.

### ● Maintenance Program for Construction Equipment in the Army

#### Department of Defense

The military services have more than 45,000 pieces of construction equipment with an acquisition cost of over \$1 billion.

GAO reported to the Secretary of Defense that depot-level maintenance of construction equipment in the Air Force and Navy was done primarily at local base work centers or by local commercial contractors. Conversely, the Army was doing such maintenance primarily at centralized capabilities at Tooele Army Depot with a limited amount of commercial contracting. A comparison of costs for commercial maintenance of selected Air Force construction equipment with costs estimated by Tooele for similar maintenance

showed that Tooele's costs would have exceeded the contractors' costs by an average 36 percent, or \$6,000, for each vehicle.

The Army concurred in GAO's recommendation to determine whether continued reliance on a central depot, rather than commercial contractors, to perform most of its depot-level maintenance on construction equipment is cost effective. The Army Tank-Automotive Command, in coordination with the Army Major Item Data Agency, initiated an analysis to determine when to use internal capability and capacity or commercial contractors. (LCD-76-446, June 3, 1976)

### Appropriation

#### Operation and Maintenance (Army)

#### Issue for consideration by the Committees on Appropriations

Depot maintenance costs for Army construction equipment could be reduced through greater use of commercial contractors rather than having the maintenance done at a centralized Army maintenance capability.

#### ● Assessment of the Air Force's Planning for the Technology Repair Center Concept

#### Department of Defense

The Technology Repair Center concept requires consolidating depot maintenance workloads on the basis of similar skills, equipment, tools, and facilities used in the repair process. The Air Force estimated that implementing the concept would cost about \$26 million and would save \$18 million annually.

GAO reported to the Secretary of Defense that the Air Force recognized the need for operational change and developed the proper mechanics for planning it. However, the benefit-cost projections used to justify the Technology Repair Center concept may be questionable because (1) the depot maintenance cost accounting system could not provide adequate data on Air Logistics Center maintenance operations, (2) the audit trail was insufficient to verify some benefits, and (3) the tracking mechanism used could not isolate benefits and costs attributable to the Technology Repair Center concept from other ongoing projects. Due to these limitations a precise evaluation of the claimed benefits and costs was impracticable.

GAO recommended that for future operational or organizational changes, such as the Technology Repair Center concept, the Secretary of Defense should insure that:

- The services' cost accounting systems can provide adequate data on depot operations for making valid benefit-cost comparisons.
- Adequate benefit-cost audit trails are established.
- The tracking system used can isolate benefits and costs associated with the change from those of other ongoing projects.

Defense officials said they concurred in GAO's recommendations for corrective action and would implement them. (LCD-76-429, July 2, 1976)

### Apropriations

Operation and Maintenance (Army, Navy, Air Force)

#### Issues for consideration by the Committees on Appropriations

1. As more operational and organizational changes are proposed to improve the efficiency of DOD's maintenance base, the credibility of cost-benefit projection must be improved.

2. Clear audit trails are needed to insure reliable comparisons between cost-benefit projections and actual accomplishments.

#### ● Major Cost Savings Can Be Achieved by Increasing Productivity in Real Property Management

##### Department of Defense

GAO reported that the services have some serious problems in the systems they use to measure and evaluate how productive their labor forces are in doing real property maintenance. These problems have caused them to fall far short of the achievements possible with adequate work measurement systems. Non-Federal organizations have reported productivity increases of 10 to 45 percent after implementing adequate systems.

Defense spends more than \$2 billion annually for real property maintenance. Therefore, a relatively small productivity increase could save millions.

The work performance standards for maintenance in Defense are largely outdated. Valid performance standards are needed for reliable estimating, scheduling, and cost controlling of this work.

GAO believed that the services needed to not only update standards but also install, support, and use, at all levels, a system of work measurement and evaluation.

GAO recommended that the Secretary of Defense:

- Establish controls and procedures for monitoring the progress of the services in complying with Defense instructions for implementing work measurement systems.
- Insure that resources are provided to update and maintain the work performance standards and to effectively use work measurement systems.
- Insure that sufficient training is provided to operating personnel and managers on the uses and benefits of work measurement systems.
- Require that productivity data be summarized for managers to use in evaluating, budgeting, and allocating resources.

Defense generally agreed with GAO's conclusions and recommendations. Defense officials said that, although their present policy was adequate, appropriate action would be taken within available resources to update standards and to emphasize work measurement systems. (LCD-76-320, Aug. 19, 1976)

### Appropriations

Operation and Maintenance (Army, Navy, Air Force)

### Issues for consideration by the Committees on Appropriations

Although Defense officials said that appropriate action would be taken, the services argued that inadequate funds were available to achieve the payoffs GAO identified. In view of this, the Congress should consider earmarking funds for standards development, since such an investment would yield net cost reductions in Government operations.

## ORGANIZATION

### ● Millions Could Be Saved Annually and Productivity Increased if Military Support Functions in the Pacific Were Consolidated

#### Department of Defense

The Department has established the Defense Retail Interservice Support program to eliminate unnecessary duplication. Although GAO reported in 1972 that improvements were needed, 3 years later this program was still not effective.

GAO found in the Pacific that (1) overseas coordinating groups responsible for identifying and proposing worthwhile opportunities for consolidation were, for the most part, ineffective, (2) local commands had prevented beneficial consolidations of support functions through parochial objections, and (3) the Secretary of Defense had not clearly authorized the Pacific commander to overcome these objections.

GAO reviewed selected military support functions in the Pacific and found that large savings and increased productivity could be realized, without impairing military missions, through consolidating

- the administrative aircraft support operation for the Army at Rankin Army Airfield, Camp Zama, Japan, and the Air Force operation at Yokota Air Base, Yokota, Japan;
- several of the 25 equipment calibration facilities in Hawaii into a joint facility;
- separate calibration facilities for each service in Okinawa;
- separate civilian personnel offices for each service in Hawaii, Japan, and Okinawa into one joint office in each location;
- two Army industrial gas production plants at Makimino, Okinawa, and two Air Force gas plants at Kadena Air Base, Okinawa;
- separate procurement offices for each service in Hawaii, Japan, and Okinawa into one joint office in each location.
- separate base housing and household furniture management offices for all the services in Okinawa;

- the seven real property maintenance organizations in Hawaii into two organizations and the four organizations in Okinawa into one;
- three automatic digital network terminals in Hawaii-- at Schofield Barracks, Wheeler Air Force Base, and Kunia Navy Facility; and
- the Army general cargo port at Yokohama, Japan, and the Navy port at Yokosuka, Japan.

Defense officials disagreed that the Pacific commander needed directive authority and said that specific procedures were provided to resolve any disagreements on consolidations recommended by the commander. They said the Army was taking the lead in drafting a proposed change to the joint regulation on interservicing that would incorporate any additional procedures deemed appropriate.

Defense officials also advised that some of the consolidations proposed by GAO had been made and others were being studied.

However, of the consolidations proposed, only the following have been undertaken:

- Industrial gas plants in Okinawa were consolidated under the Air Force.
- Army and Air Force procurement offices in Japan and Korea were consolidated; however, the Navy continues to operate separately, and separate service offices are maintained in Hawaii.
- The Wheeler Air Force Base automatic digital network facility was closed and its functions taken over by Schofield Barracks Army terminal; the Navy terminal continues to operate separately.

Defense advised that staffing was greatly reduced at the Army cargo port in Yokosuka, Japan, in consonance with reduced workload; however, both cargo ports continue to operate. (LCD-75-217, Aug. 26, 1975)

### Appropriations

Operation and Maintenance (Army, Navy, Air Force)

Issue for consideration by the  
Committees on Appropriations

The Committees should consider what is being done to achieve these proposed savings during future appropriations requests.

● Army Plans to Realine  
the Armament Community

Department of the Army

In response to requests from several Members of Congress, GAO reviewed Army plans to establish a U.S. Army Armament Development Center and an Armament Logistics Command. The realignment will consolidate the U.S. Army Materiel Development and Readiness Command's armament field elements into two distinct organizations--one with the responsibility for materiel development and the other for logistics. The realignment, expected to be completed by 1980, is part of a general reorganizational change to improve the Army's materiel acquisition process.

The Army estimates the realignment will cost \$75 million and, after completion, its annual operating costs will decrease by about \$42 million. GAO believes the Army cost estimate is reasonable but the estimated annual operating-cost reductions are overstated. GAO determined that the annual operating costs would decrease by about \$31.2 million as a result of the realignment and by about \$6.3 million because of workload reductions not related to the realignment.

Army officials agreed that \$6.3 million of the cost reductions would occur because of workload reductions rather than realignment. Although they also agreed that errors were made in computing the cost reductions, they believe the errors resulted in a net \$1.1 million overstatement of the cost reductions rather than the \$4.4 million estimated by GAO.  
(LCD-76-448, Aug. 3, 1976)

Appropriations

Military Construction (Army)  
Operation and Maintenance (Army)  
Procurement (Army)  
Research, Development, Test, and Evaluation (Army)

Issue for consideration by the  
Committees on Appropriations

Appropriations will be needed to implement the realignment. The Committees should require the Army to periodically report on its progress in implementing the realignment.

## READINESS

### ● Equipment Shortages: A Result of Emergency Support of U.S. Allies

#### Department of Defense

For fiscal years 1972-74, the United States programmed, largely on an accelerated, emergency basis, about \$8.5 billion to support South Vietnam and Israel with military supplies and equipment. GAO reported to the Congress that the result of this support lowered U.S. readiness because equipment was taken from active forces; prepositioned and depot stocks were reduced below desired levels; and equipment in the possession of, or earmarked for delivery to, reserve components was diverted or withdrawn and transferred to these countries.

GAO concluded that continued support to allies from stocks procured or previously held for the support of U.S. forces will cause varying degrees of degradation in the readiness of these forces.

GAO also concluded that the Department's contingency planning for emergency logistics support to allies and the logistics management structure needed improvements. Generally, Defense officials concurred with GAO's recommendations to improve logistics management structure and contingency plans for emergency support of allies and to apprise the Congress of such plans. The Department disagreed with GAO's recommendation to establish criteria limiting the extent of degradation to be accepted by U.S. forces in support of allies. (LCD-75-426, Nov. 19, 1975)

#### Appropriations

Procurement (Army, Navy, Air Force)  
Operation and Maintenance (Army, Navy, Air Force)  
Foreign Assistance

#### Issue for consideration by the Committees on Appropriations

Supporting allies with large shipments of military supplies and equipment from stocks procured for the use of U.S. forces can have and has had an adverse long-range impact on funding and procurement programs. The Committees may wish to closely monitor the potential impact of any similar actions proposed in the future.



● Flying Hour Programs of the  
Military Services: Opportunities  
for Improved Management

Department of Defense

Military flying cost about \$2.7 billion in fiscal year 1975. Most of this flying was for developing and maintaining proficiency as an element of military readiness. Effective management of this flying requires a system that can relate planned and actual flying to training and readiness needs and results.

GAO reported to the Congress that it found varying degrees of development of a system to manage flying hours within the military services. The Air Force system seems to be the most developed, the Army's the least developed, and the Navy's somewhere in the middle. Accordingly, many examples of ineffective management were found.

GAO recommended that the Secretary of Defense

- insure that the military services adopt systems for managing flying hours that can be related to force-readiness objectives and can be used by the services for planning, executing, and managing their flying hour programs;
- direct the military :                    commanders to improve control procedures to insure more effective training by balancing flying hours allocated and used and by making greater use of crew substitutions; and
- establish system changes to preclude little-used or unnecessary flights.

Defense officials generally agreed with the report data and GAO's conclusions, but gave no assurance that action would be taken to develop a better management system. (LCD-75-451, June 18, 1976)

Appropriations

Operation and Maintenance (Army, Navy, Air Force)

Issue for consideration by  
the Committees on Appropriations

The military services need more effective systems for managing their flying hour programs to assure more efficient flying and to determine what is needed to be combat ready.

● Readiness of First Line U.S. Combat Armored Units in Europe

Department of the Army

The Army in Europe spends \$1.3 billion annually on 183,000 personnel assisting North Atlantic Treaty Organization (NATO) allies in the defense of Europe. The Army relies heavily on tracked vehicles to provide mobility and much of the firepower necessary for its units.

In a report to the Secretary of Defense, GAO concluded that units were not as combat ready as reported. Units, reported as substantially ready with minor deficiencies, lacked personnel to fully crew all of their tracked vehicles, and some personnel crewing the vehicles lacked combat skills. Attempts to improve these skills have been hampered by limited access to major training areas. Units also had problems with the readiness of their tracked vehicles and with the availability of their ammunition.

The Army advised GAO of a number of actions it has initiated to improve readiness and its readiness reporting system. (LCD-76-412, June 30, 1976)

Appropriations

Military Personnel (Army)  
Operation and Maintenance (Army)

Issues for consideration by the Committees on Appropriations

1. The Army has not been able to achieve and maintain the degree of readiness necessary for front line combat-armored units because of problems concerning personnel, equipment, ammunition, tactical and gunnery training, and the Unit Readiness Reporting System.
2. Some problems, such as access to ammunition stockage points, location of stockage points, and tactical and gunnery training, may require additional funds to improve readiness to acceptable levels, but most of the problems could be overcome by improving resource management.
3. Improvements in the Unit Readiness Reporting System would enable the Army to spot and correct weaknesses in military preparedness.

● Continuing Problems With U.S. Military Equipment Prepositioned in Europe

Department of Defense

The Army stores large quantities of equipment in Europe for use in an emergency by troops deployed from the United States by air. The equipment is stored under a concept referred to as "prepositioned equipment" configured to unit sets (i.e., unit entities). In December 1975, the value of equipment authorized for stockage under this concept was \$778.4 million. This review of the prepositioned equipment program was a followup of GAO's earlier report (B-146896, Mar. 9, 1973) and was requested by the Chairman of the Joint Economic Committee.

In 1976, as in 1973, GAO questioned whether the Army could be fully effective in the missions assigned troops with prepositioned equipment because:

- There were important shortages of combat-essential equipment in prepositioned stocks, many of which would exist for several years. Also, there were shortages of repair parts and ammunition.
- Some vehicles in the program were deteriorated. Further, the readiness reporting system did not provide accurate reports of equipment status.
- There were not enough personnel for maintaining the equipment.
- Shortages in stocks would require U.S. units to bring equipment with them, thus increasing deployment time. Moreover, this equipment was not as combat ready as reported and thus would likely need maintenance before deploying, further increasing deployment time.

GAO concluded that it was now time to make major decisions regarding the prepositioned equipment concept and its options. Further, GAO made several recommendations to the Secretary of Defense and the Secretary of the Army for improving the prepositioned equipment program over the near term and suggested three alternatives for long-term solutions:

- Providing the resources to make the current program workable and effective.
- Reducing the scope of the present program to a level that can be supported as extended.

--Abandoning the prepositioned equipment concept in Europe and developing another program which could be effectively supported and still meet NATO commitments. (LCD-76-441, July 12, 1976)

## Appropriations

Procurement (Army)  
Operation and Maintenance (Army)

## Issues for consideration by the Committees on Appropriations

The alternatives or options available to the Department of Defense in solving the problems with the prepositioned equipment program range from abandoning the concept to fully funding it. In view of the significant potential impact on funding, the Committees may desire to monitor the Department's actions and plans in this area.

### ● Army Contingency Planning for the Pacific Theater

#### Department of the Army

In meeting its defense commitments in the Pacific, the United States provides its Asian allies with military and economic assistance while minimizing possible U.S. combat involvement. Such actions are consonant with the national policy announced by the President in July 1969 (commonly referred to as the Nixon Doctrine) pertaining to military support of U.S. allies.

Army plans for performing its Pacific theater role include prepositioning equipment, ammunition, and other supplies (i.e., war reserves) in the area to be readily available.

According to plan, U.S. ground forces are to be held in reserve while an allied army does the fighting. GAO reported to the Congress that this could be difficult to put into operation because

--only part of the war reserve materiel needed for U.S. Pacific allies is stored in the area;

--war reserves stored there for U.S. forces would not alleviate an ally's shortages;

--transportation problems would affect resupply;

--physical storage and maintenance of reserves would be difficult; and

--the current plan to provide logistic support to an ally needs to be revised.

If it became necessary to defend the ally, the United States would have to decide between a number of alternatives such as:

- Providing equipment and ammunition from U.S. depots or diverting that which is assigned to or planned for U.S. units. (This approach was used to support Israel during the Middle East War of 1973. As a result, U.S. force readiness was adversely affected.)
- Committing U.S. ground forces. (This alternative may not be well received by most Americans in view of recent experiences in Southeast Asia.)
- Allowing an ally to fight with available equipment and ammunition while hoping for an early resolution to the conflict.

None of the alternatives is particularly desirable.

GAO recommended that the Nixon Doctrine, current Army plans to defend Pacific area allies, and the capability to implement those plans should be reexamined by the Congress and the executive branch to bring the doctrine, plans, and capability into consonance with one another.

GAO also recommended that the Secretary of Defense, during this reexamination, evaluate the usefulness of storing war reserves at Pacific locations. Furthermore, the Secretary should reconsider a proposed expenditure of \$89 million to provide additional Pacific ammunition storage facilities.

This report was issued without Department of Defense comments because of the inordinate delay in receiving comments--180 days at the time the report was issued.  
(LCD-76-430 (Secret), Oct. 6, 1976)

### Appropriations

Procurement (Army)  
Operation and Maintenance (Army)  
Military Construction (Army)

### Issue for consideration by the Committees on Appropriations

In conjunction with reexamination by the Congress and the executive branch of national policy, Army plans to defend

Pacific area allies, and Army capability to implement those plans, the Committees may wish to monitor the Secretary of Defense's actions concerning the proposed expenditure of \$89 million to provide additional Pacific ammunition storage facilities.

## SUPPLY DISTRIBUTION

### The Army Should Evaluate Cost Effectiveness of the Direct Support System and Make Needed Improvements

#### Department of the Army

The Army's Direct Support System could provide economical and effective supply support to overseas units through maximum containerization of shipments and by by-passing overseas intermediate depots. To attain such support the Army needs to preposition about 90 percent of the material needed overseas at depots near overseas departure points.

GAO found that newly procured stocks were not always being positioned at the appropriate depots and bulk inter-depot transfers were not made when needed. Further, in connection with its plan to terminate some depots' supply distribution mission, the Army arbitrarily decided to deplete stocks at these depots by favoring issues from them over issues from more opportune storage locations.

As a result, much material was shipped across country in uneconomical small quantity shipments before being consolidated for overseas transport. This extended the supply pipeline (order and ship time) because of the longer transit time from the more remote depots.

GAO recommended that new procurements be positioned in appropriate depots near overseas departure points, based on the latest customer demand information, and that bulk inter-depot stock transfers be made when the need for stock realignment was indicated. GAO recommended that, when the Army wished to close depots, active stocks be transferred in bulk rather than depleted through attrition.

Defense officials advised that the Army is developing, for its inventory control points, a program change which will direct new procurements into the appropriate distribution depots while also considering the net assets already on hand. They also said the Army's inventory control points were directed to initiate positive action to bulk relocate stocks into appropriate depots. However, they indicated that the Army's practice of favoring issues from less opportune locations would continue until attrition was completed. (LCD-76-219, Oct. 1, 1976)

## Appropriations

Operation and Maintenance (Army)  
Stock Fund (Army)

### Issues for consideration by the Committees on Appropriations

The Committees should consider what the Army is doing to correct these uneconomical practices when considering appropriations requests for transportation funds. These practices also require additional stock funds to finance the extended supply pipeline.

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## SUPPLY MANAGEMENT

### ● The F-15 Is an Example of How Weapon Systems Support Costs Can Be Reduced

#### Department of the Air Force

Large portions of major weapon system acquisition costs relate to procuring support equipment, such as testers.

GAO reported to the Congress that by exercising better control over factors affecting support equipment requirements, the investment in such equipment could be greatly reduced. More specifically, support equipment requirements for the F-15 were overstated because the Air Force's new emergency deployment concept was not considered. The Air Force subsequently reduced its requirement for avionics test equipment by about \$77 million.

Further savings of about \$33 million would be possible if the Air Force were to use existing avionics test equipment more fully rather than provide separate test shops at other locations scheduled to receive the F-15. In determining support equipment requirements for the F-15, the Air Force is not fully considering assets already compatible with the F-15.

GAO also reported that the required number of F-15 training aircraft can be reduced by 17 planes valued at about \$170 million, not considering spare parts and support equipment needs associated with these aircraft.

GAO recommended that the Secretary of Defense improve the process for determining support equipment requirements for major weapon systems. Specific recommendations for the F-15 program were to:

- Reexamine avionics test equipment requirements and make the necessary reductions.
- Reevaluate support equipment requirements by using current deployment objectives.
- Reduce training aircraft requirements by 17 aircraft and reduce the planned acquisition accordingly.  
Evaluate the factors that directly affect training aircraft needs to determine if additional reductions should be made.

Defense officials generally concurred in GAO's recommendations to reexamine support requirements for major weapon systems. (LCD-76-403 (Secret), Jan. 22, 1976)

## Appropriation

### Aircraft Procurement (Air Force)

#### Issues for consideration by the Committees on Appropriations

1. Support equipment costs for the F-15 and other weapon systems could be reduced if the controllable factors affecting support equipment requirements were reevaluated and adjusted.

2. The number of F-15 aircraft planned to be procured should be reduced by 17 to adjust for the overstatement in training aircraft needed. Further reductions may be possible upon reevaluation of the factors directly affecting training aircraft needs.

#### The Department of Defense Can Improve Its Free-Asset Management

##### Department of Defense

The Department gives to the Congress estimates of free-asset funds which are used in the budget process to partially fund Defense programs. Over \$1 billion in free assets was generated in the Department during fiscal years 1972-75 from the sale of equipment not requiring in-kind inventory replacement. An additional \$66 million was generated, during fiscal years 1974-75, from the sale of items resulting from nonrecurring research, development, tests, and evaluation.

Because Defense has not provided a standard definition of free assets, the military services have developed definitions which vary among the military departments and among the Army's commodity commands. Historically, the free-asset estimates given to the Congress have been low. If initial estimates were closer to the actual amounts of the free assets realized, funds initially appropriated for Defense programs could be reduced.

GAO reported to the House Committee on Armed Services that the Army has limited control over its free-asset generations because of

--its lack of visibility over the generation and use of free assets by commodity commands because reporting requirements are not enforced,

--unreported generation and use of free-asset amounts at the command level, and

--inaccurate command records from which free-asset generations are calculated.

GAO recommended that the Secretary of Defense

--establish and enforce a criterion to which the services should adhere in classifying the sales of Defense items as free-asset sales and which specifies the period for replacing the items sold and what constitutes replacement in kind and

--instruct the Secretary of the Army to enforce the customer-order reporting requirements set forth in Army Regulation 37-120. (LCD-76-414, Mar. 3, 1976)

### Appropriations

Operation and Maintenance (Army, Navy, Air Force)

#### Issues for consideration by the Committees on Appropriations

In light of the problems involved in estimating the amount of free assets that accrue as well as the lack of adequate controls over the proceeds, the Committees may wish to consider requiring the Department of Defense to

--credit proceeds, from sales of inventory items which are not to be replaced, to the Treasury as miscellaneous receipts and

--credit the proceeds over and above replacement costs to the Treasury as miscellaneous receipts for sales of inventory items which are to be replaced.

#### ● Defense Supply Agency Could Reduce War Reserve Requirements for Medical Items

##### Department of Defense

The Defense Supply Agency is responsible for ensuring that medical supplies and equipment will be available to the military services in event of war. This entails determining wartime needs and making arrangements for supplying them by establishing stock reserves and making emergency production agreements with private firms.

GAO found that the Agency had not given adequate emphasis to managing wartime needs for medical supplies and equipment. A management plan, sufficient resources to adequately canvass industry, and adequate technical assistance had not been provided to carry out the program. As a result:

- Medical items readily available from commercial sources were not identified.
- Planning agreements for most medical items classified as requiring emergency production by private firms had either not been implemented or had provided insufficient quantities to meet wartime needs.
- Reserve stocks for medical items requiring emergency production agreements were overstated.
- The Agency's method of determining needs resulted in an extraordinary allowance for possible problems with the supply system.

GAO's report to the Congress recommended that the Defense Supply Agency develop and implement a management plan to provide guidance and goals and a means of evaluating the industrial preparedness planning program. GAO also recommended that the method of determining an allowance for possible problems with the supply system in an emergency be changed.

In response, the Agency assigned additional personnel, implemented a plan to improve management, and began reviewing alternative methods of determining wartime needs.

Subsequently, in a special report to the Senate Armed Services and Appropriations Committees on war reserve items, Defense said it did not contemplate any further investment in medical war reserve stocks until the problems in GAO's report are reduced. (LCD-76-405, Mar. 5, 1976)

### Appropriation

Operation and Maintenance (Defense Supply Agency)

### Issue for consideration by the Committees on Appropriations

Actions are needed to reduce unnecessary investments in war reserve stocks and to help ensure that adequate arrangements are made for supplying critical needs.

● Developing Equipment Needs for Army Missions Requires Constant Attention

Department of the Army

The Army develops prototypes, or ideal models, of combat units that prescribe unit missions, organizational structures, and personnel and equipment requirements. From the prototypes, the Army establishes actual combat units. GAO reviewed the systems which develop the prototype combat units because they translate the Army's concept and doctrine into planned and actual combat units.

GAO's report to the Congress pointed out that studies which precede developing prototype units could be improved by more adequate consideration of the types of equipment needed for the units' missions and how and by whom the equipment was to be used. Also, equipment requirements for prototype units needed to be documented and regularly reviewed. GAO's findings were supported by two special Army studies which found that because of doctrinal weakness and lack of documentation and review of prototype units, Army-wide requirements for wheeled vehicles and radios were overstated by about \$727 million.

GAO pointed out that the Army needed to improve its efforts to pattern actual combat units after newer, more austere prototypes and to tailor combat units' equipment requirements to their needs.

In reviewing how the Army develops equipment requirements for noncombat units, whose missions and workloads rather than prototypes govern their equipment requirements, GAO found that more equipment-use standards were needed and existing standards should be realistic and enforced. Also, GAO questioned the need for about \$2.1 million out of \$4.9 million of noncombat units' equipment.

In response to GAO's recommendations to the Secretary of Defense, the Army agreed to change its procedures and take other steps to improve the development process for prototype combat units, assure that actual combat units conform to newer prototypes, and establish and enforce use standards for equipment in noncombat units. (LCD-75-442, May 10, 1976)

Appropriation

Procurement (Army)

Issues for consideration by the  
Committees on Appropriations

The Army can more effectively use its funds by assuring that (1) the proper equipment is placed in prototype combat units, (2) actual combat units conform to prototypes, and (3) good use standards are established to measure the need for equipment in noncombat units.

● Department of Defense  
Stock Funds' Declining  
Financial Position

Department of Defense

In response to a request from the Senate Appropriations Committee, GAO reviewed the cash requirements of Defense stock funds. GAO's report showed that in fiscal year 1974 their cash and working capital began to deteriorate. This deterioration was caused by rapidly rising prices, stock fund pricing policies, delays in updating published prices, and stock fund price freezes. Defense resolved the cash shortage by placing a 15-percent surcharge on sales to its customers.

Defense should have considered alternatives to the surcharge. GAO concluded that a direct appropriation would have been better and recommended that the Department resolve any future major cash fund shortage by seeking a direct appropriation for the stock fund. GAO also recommended that the Secretary of Defense improve procedures for determining cash requirements and tailor stock fund cash balances to the requirements of individual stock funds. (LCD-76-433, June 16, 1976)

Appropriations

Operation and Maintenance (Army, Navy, Air Force)  
Stock Fund Capital (Army, Navy, Air Force)

Issues for consideration by the  
Committees on Appropriations

1. Future cash shortages should be satisfied by direct appropriations to the stock funds rather than the surcharge.

2. Defense's estimate of cash requirements was not supported by a formal study of cash needs. Defense needs to improve its cash forecast procedures.

● Greater Use of Commercial Distribution Systems for Minor, Low-Use Supply Items Can Reduce Defense Logistics Costs

Department of Defense

The Defense Supply Agency generally manages common-use, commercial-type supply items, such as circuit breakers, electrical lamps, and chain and wire rope. Most of the items are low-cost, low-use items. For example, in 1975 about 624,500 of the Agency's 1.4 million items had annual issues of less than \$400 (low-value items) and another 524,500 items had not been requisitioned by military users during the year.

GAO's review indicated that many low-use items are available within 30 days to users from established commercial supply sources.

The overemphasis on central stockage by the Agency's supply centers limited the use of commercial distribution systems and may have caused many commercially available items to enter and remain in the central supply system unnecessarily.

GAO believes that greater use of commercial distribution systems can save the Agency millions of dollars in supply management and inventory investment costs. The Agency has various ways of providing responsive support to users through commercial distribution systems, such as Federal Supply Schedules, indefinite-delivery contracts, and local purchase by user activities.

GAO's report to the Congress recommended ways to prevent commercial items from entering the supply system and to minimize the number of such items already stocked in the system.

Defense officials told GAO that they intended to make greater use of commercial distribution systems. They also said that several issues, such as overseas support and the need for a viable support structure in wartime, tend to make decisions to stock or not stock somewhat more complex. GAO recognizes that such issues must be considered but believes they should not prevent a major reduction in the stockage of commercial items. (LCD-76-422, Aug. 9, 1976)

Appropriation

Operation and Maintenance (Defense Supply Agency)

Issue for consideration by the  
Committees on Appropriations

Large savings in supply management costs and reduced inventories can be realized by relying more on the commercial distribution system for low-use supply items.



## TESTING

### ● Department of Defense Test Capacity

#### Department of Defense

A total of 26 Defense ranges and test facilities comprise the major range and test facility base. Fiscal year 1975 funding to operate the test and evaluation part of the major range and test facility base amounted to about \$1.5 billion.

GAO reported to the Senate Committee on Appropriations on the duplication existing among Defense test ranges and test facilities in ordnance, propulsion, and underwater sound equipment. GAO found the test capacity to be considerably greater than the projected workload and recommended that the Secretary of Defense examine test facility workload and capacity, in ordnance and engine testing, to determine whether it would be desirable to consolidate the workload at fewer facilities.

GAO's report to the Senate Committee on Appropriations was also sent to other principal committees. (PSAD-76-75, Mar. 1, 1976)

On May 19, 1976, the Department provided written comments on the March 1, 1976, GAO report under the provisions of the Legislative Reorganization Act of 1970. Defense specified that, based upon the recommendations contained in the GAO report, it will (1) review workload and capacity data at the 11 designated facilities that support ordnance testing and prepare consolidation plans, if appropriate, (2) develop plans for possible consolidation of engine propulsion testing currently conducted at the Naval Air Propulsion Test Center and the Arnold Engineering Development Center, and (3) conduct appropriate economic and environmental analyses as an integral part of this planning. Defense also specified that the resulting plans will be reviewed for potential to enhance testing capability and effect cost savings. Implementation will follow a favorable review, provided no excessive negative impact on the environment or on Defense testing, training, and operational responsibilities is projected.

#### Appropriations

Research, Development, Test, and Evaluation (Army, Navy, Air Force)  
Operation and Maintenance (Army, Navy, Air Force)  
Procurement (Army, Navy, Air Force)

Military Personnel (Army, Navy, Air Force)  
Military Construction (Army, Navy, Air Force)

Issue for consideration by the  
Committees on Appropriations

In the July 22, 1976, Senate Committee on Appropriations report covering the 1977 DOD Appropriations Bill, it was reported that Defense agreed with the GAO report and listed the actions outlined above. GAO will continue to monitor and report to the Appropriations Committees on Defense's progress in eliminating duplication among test ranges and test facilities.

● Opportunities for the Navy to  
Reduce Its Requirements for  
Avionics Testing Stations

Department of the Navy

The Navy has introduced the complex Versatile Avionics Shop Test system into the fleet to test a large portion of the three latest fleet aircraft. Current plans stipulate that the test system will also be used to support avionics of the F-18 weapon system now being developed.

GAO reviewed implementation of the test system and recommended that the Secretary of Defense (1) reevaluate requirements for additional system stations based on current forecasts of system performance rather than on historical workload, (2) reduce the number of expensive system stations used for training purposes, and (3) determine the feasibility of consolidating avionics shops using the expensive test system at geographically-close shore installations. (LCD-76-440, June 14, 1976)

The Navy agreed with GAO's findings and stated that relevant operational inputs and forecasts of system performance improvements would be used to determine and reevaluate the requirements for additional system stations in support of existing and future aircraft. Regarding the reduction of system stations used for training, the Navy agreed with the intent of the recommendation but only promised to discuss the item during a later training conference. The Navy concurred with GAO's recommendation to determine the feasibility of consolidating Versatile Avionics Shop Test system shops at shore installations, stating that it would review this subject in the future as there are no underutilized system stations at shore installations.

Appropriation

Aircraft Procurement (Navy)

Issues for consideration by the  
Committees on Appropriations

The number of the expensive test stations (\$3.5 million per copy) needed could be reduced if (1) requirements were based on reasonable operating expectations, (2) the number of training stations was minimized, and (3) geographically-close avionics test shops were consolidated.

## TRAINING

### ● Need to Improve the Efficiency of Reserve Training

#### Departments of Defense and Transportation

GAO reported to the Congress on the need to improve military reserve training. The services require 99 percent of their reservists to attend forty-eight 4-hour drill sessions and to spend 2 weeks on active duty each year, although needed readiness and skill difficulty vary widely among units and members. Over \$2.7 billion was authorized by the Congress for this training during fiscal year 1974.

On the average, reservists spend 50 percent of their drill time and 61 percent of their active duty time training in their official military jobs. Remaining time is devoted to other jobs or general military activities or spent idle. Idleness is a major cause of job dissatisfaction among reservists.

GAO estimated that, in fiscal year 1974, reservists' time devoted to other than official jobs or spent idle totaled 15 million mandays and cost \$1.2 billion. About 6.5 million mandays and nearly \$475 million were applicable to idle time.

GAO informed the Congress that some reservists could maintain proficiency under a reduced training schedule and recommended that the Congress amend laws to permit varying the training of the Army and Air National Guard according to kinds and degrees of training.

GAO also made specific recommendations to the Secretaries of Defense and Transportation (the latter regarding the Coast Guard Reserve) and to the military services on improving reserve training. The Departments of Defense and Transportation generally agreed with the recommendations and informed GAO that several actions had been or would be taken to implement them. In September 1975, GAO officials testified on the matter discussed in the report before the House Armed Services Committee. (FPCD-75-134, June 26, 1975)

#### Appropriations

Military Personnel (Army, Navy, Air Force)  
Reserve Training (Coast Guard: Transportation)

Issues to be considered by  
the Committees on Appropriations

Eliminating required paid attendance at drills beyond that necessary to maintain individual and unit combat readiness could reduce training costs significantly and improve troop morale.

## TRANSPORTATION

### ● Questionable Use of the Domestic Aeromedical Evacuation System

#### Department of Defense

The Department provides a domestic aeromedical evacuation system which, in fiscal year 1973, cost about \$18.5 million and moved about 43,000 patients. The domestic system has two primary functions--patient movement and medical regulating.

GAO reported to the Secretary of Defense concerning several problems involved in using the domestic aeromedical evacuation system, including

- transportation of patients eligible for care under the CHAMPUS program,
- transportation of patients when medical specialties were available at originating military medical facilities,
- transportation of patients to other than the closest appropriate military medical facility, and
- potential for using alternative means of transportation.

GAO recommended that the Secretary (1) ensure the promotion of interservice patient transfers and limit long-distance transfers initiated by physician-to-physician referrals to necessary instances and (2) initiate a departmental reassessment of the system with a view toward modifying it to coincide with the Department's recently established program for regionalizing its health care delivery services.

The Department generally agreed with GAO's recommendations and stated that recently revised procedures should improve the system. Moreover, the Department began evaluating the requirements and capabilities of the entire aeromedical evacuation system--domestic and overseas--during mobilization and contingency operations. (MWD-75-45, Apr. 21, 1975)

#### Appropriations

Operation and Maintenance (Army, Air Force)  
Military Personnel (Army, Navy, Air Force)

Issues for consideration by the  
Committees on Appropriations

1. Two Subcommittees of the House Committee on Appropriations expressed interest during hearings held in May 1974 concerning problems relating to the uses being made of the aeromedical evacuation system.

2. The domestic aeromedical evacuation system is a costly activity which has the potential for misuse but also the potential for streamlining to coincide with the Department's regionalization program for health care delivery. The Committees may wish to consider these factors when funding the Department's health care activities.

● Use of Appropriated Funds to Pay for the  
Transportation of Armed Forces Exchange Goods

Department of Defense

Each year the Department pays about \$60 million of congressional appropriations for transporting Armed Forces exchange cargo between the United States and overseas points. The Congress is aware of, and apparently approves, the use of appropriated funds to pay some of the transportation costs of the military exchanges. But GAO could find nothing to indicate that the Congress is aware that such funds are being spent to procure transportation solely for exchange goods.

Statutes governing the Army and Air Force permit appropriated funds to be used for transportation costs of exchange cargo when it is carried on public transportation not required for other purposes. Although there is no legislative history defining "public transportation," a reasonable interpretation would include those conveyances owned, leased, or chartered by the Government where the Government is already obligated to pay for the space whether it is used or not.

After reviewing the matter and evaluating the various interpretations of the pertinent statutes, GAO believed there was considerable doubt as to the intent of the Congress with respect to using appropriated funds to finance transportation costs incurred solely for exchange goods.

Defense officials disagreed with GAO's interpretation of "public transportation." Also, they believed that the Congress was aware of and agreed with the use of appropriated funds for exchange shipments.

However, GAO still believed congressional intent was not clear. GAO therefore recommended that the Congress consider whether it is appropriate for the Government to continue paying the cost of transporting exchange goods by using space on transportation facilities not owned by the Government or for which the Government is not otherwise obligated to pay.

In response to the GAO report, Defense officials reaffirmed their position.

The GAO report (B-169972, Aug. 6, 1973) was published, in toto, in "Part 5, FY 75 Department of Defense House Appropriation Hearings" (May 1974). Also, a synopsis of the report was included in another GAO report, "Summaries of Conclusions and Recommendations on DOD Operations" (PSAD-76-68, Jan. 26, 1976) which was sent to the Chairmen of the Senate and House Appropriations Committees.

In June 1976 the Chairman of the Senate Committee on Appropriations asked GAO to update statistics in the 1973 report. The desired information was subsequently provided.

#### Appropriations

Operation and Maintenance (Army, Navy, Air Force)

#### Issue for consideration by the Committees on Appropriations

The Committees should consider whether appropriated funds should continue to be used for paying the cost of transporting exchange goods on transportation facilities not owned by the Government or for which the Government is not otherwise obligated to pay.



## PART TWO: MILITARY ASSISTANCE

### INDOCHINESE REFUGEE PROGRAM

#### Evacuation and Temporary Care Afforded Indochinese Refugees--Operation New Life

##### Departments of Defense and State

During an 8-month period ending in December 1975, over 140,000 Indochinese refugees were evacuated from South Vietnam, temporarily cared for at reception centers in the Western Pacific and United States, and finally resettled in the United States and other countries. An Interagency Task Force was formed to coordinate all refugee activities. This program was funded by a special congressional appropriation to the Department of State and by Agency for International Development (AID) funds transferred by Presidential determination.

GAO reported that although the refugee program was generally successful, some problems did occur. Specifically, problems relating to overall coordination, absence of adequate review of reimbursement claims, and weak control over supplies and equipment were prevalent.

The Departments of State and Defense concurred with GAO's recommendations; however, corrective action has not been completed. (ID-76-63, June 1, 1976)

##### Appropriation

Accompanying appropriation to the Indochina Migration and Refugee Assistance Act of 1975, Department of State

##### Issues for consideration by the Committees on Appropriations

1. The Departments of State and Defense should completely review the validity, propriety, and correctness of claims for cost reimbursements from the special refugee funds.
2. The Departments of State and Defense should ensure that all remaining supply and equipment items after the temporary refugee camps closed are disposed of in a manner which allows the Federal Government to effectively use such supply and equipment items.
3. The Navy contends that the \$6.6 million it charged for the fuel costs of Pacific Fleet vessels was proper.

However, GAO does not believe the information furnished to it fully supports this contention. Moreover, GAO feels that the \$6.6 million was paid from refugee funds to cover fuel costs that normally would have been paid from the Navy's annual appropriation.

## PART THREE: DEFENSE-RELATED ACTIVITIES

### AUTOMATIC DATA PROCESSING

#### ● Automated Support of Depot Operations Could Be Improved

##### Department of Defense

The Defense Supply Agency designed and developed three automated logistical information systems to support its supply management responsibilities. The Standard Automated Materiel Management System (SAMMS) was designed to support supply center activities, and the Mechanization of Warehousing and Shipment Processing (MOWASP) was designed to support most of the depots' information requirements. A subsystem to MOWASP, the Mechanization of Freight Packing and Shipping Terminal (MOFAST), was designed to support those depot information requirements not supported by MOWASP. The operational status of these information systems at the depots varied.

GAO found that some depot activities could be accomplished more economically and effectively by improving the information systems. For example, an estimated \$1 million, out of the \$14 million in parcel post shipment costs, could be saved annually through greater consolidation of parcel post shipments with freight shipments.

GAO recommended that changes be made to the information systems so the Agency could

- ship materiel more economically;
- insure the accurate preparation, recording, and reporting of materiel shipments; and
- provide improved control over the processing of customer requisitions.

Generally, Agency officials agreed with GAO findings and recommendations (LCD-76-108, Feb. 20, 1976). A follow-up review on GAO findings and recommendations has been scheduled to determine whether appropriate actions have been taken.

##### Appropriations

Operation and Maintenance (Defense Supply Agency)  
ADP Procurement (Defense Supply Agency)

## Issues for consideration by the Committees on Appropriations

Appropriations for operation and maintenance and ADP procurement could be reduced if departments and agencies were required to provide more assurance that proposed information systems would be developed in a cost-effective and timely manner and would provide efficient operations.

### ● Use of Minicomputers in the Federal Government: Trends, Benefits, and Problems

#### Government-wide

Minicomputers, now used in Government primarily for scientific data processing and control of machinery, are expected to be increasingly adopted for more general data processing to improve productivity.

GAO's report described several cases of enhanced productivity through the use of minicomputers, including:

- Automating a process previously done manually.
- Augmenting work previously done on large central computers.
- Replacing existing equipment or services.

GAO found that there were problems in and limitations on using minicomputers, especially with software. Also, some agencies reported that the complicated procurement regulations governing minicomputer acquisitions caused excessive administrative costs and delays.

GAO recommended that the General Services Administration simplify procurement requirements that agencies must follow to buy small quantities of low-cost minicomputers. GSA agreed that the procurement regulations should be simplified and indicated that some steps would be taken to that end. (FGMSD-75-53, Apr. 22, 1976)

#### Appropriations

various agencies' appropriations for ADP equipment

Issue for consideration by the  
Committees on Appropriations

Streamlined procurement procedures could make the use of low-cost minicomputers for agency ADP needs an attractive and economical alternative.

● Improvements Needed in Managing Automated  
Decisionmaking by Computers Throughout  
the Federal Government

Government-wide

Computers are especially useful in automating business-type applications which involve repetitive processing or large volumes of data. GAO reported that Federal agency computers cause more than 1.7 billion payments and other actions a year without anybody evaluating whether or not they are correct. These unreviewed actions include:

--Authorizations for payments totaling \$26 billion.

--Bills totaling \$10 billion.

--Requisitions, shipping orders, repair schedules, and disposal orders for material valued at \$8 billion.

GAO identified two categories of causes of incorrect actions by automated decisionmaking applications: software problems and data problems. For example:

--One military department incurred \$2.2 million in extra costs because of erroneous computer software.

--Another military agency incurred millions of dollars in unnecessary overhaul of equipment because of software and data problems.

GAO recommended that:

--The Director, Office of Management and Budget, require that (1) each agency determine whether any of its computer operations involve automated decisionmaking applications, (2) the agencies review each operation to determine whether or not incorrect actions are being taken as a result of these applications, (3) agencies take proper steps to insure correct decisions before initiating new automated decisionmaking applications, and (4) agencies report on the actions taken and establish an appropriate mechanism for monitoring.

- The Secretary of Commerce direct the National Bureau of Standards to issue technical guidelines for developing, using, evaluating, documenting, modifying, and monitoring these applications in the Federal Government.
- The Civil Service Commission add training courses in automated decisionmaking applications to its curriculum.
- Agencies' internal audit groups participate in the design, test, and review of their automated decision-making applications.

GAO received comments from several agencies agreeing in principle to the need for increased management attention to automated decisionmaking applications. (FGMSD-76-5, Apr. 23, 1976)

### Appropriations

National Bureau of Standards appropriations  
Appropriations for ADP systems (various agencies)

### Issues for consideration by the Committees on Appropriations

1. Increased management attention to automated decision-making applications could yield significant savings to the Government.
2. The Committees may wish to appropriate funds for developing the recommended technical guidelines by the National Bureau of Standards.

### ● Computer-Related Crimes in Federal Programs

#### Government-wide

Computer systems have added a new dimension for potential crime. Information on computer-related crimes in Government is difficult to gather, because investigative agencies do not classify crimes as computer related. But GAO did learn of 69 instances of improper use of computers in Federal programs which caused losses of over \$2 million.

Most of the cases GAO examined did not involve technically sophisticated attempts to defraud with computer technology. Instead, they were uncomplicated acts which were made easier through inadequate management controls.

GAO recommended that the heads of Federal agencies emphasize management controls in their computer systems, including:

--An established system of practices to be followed for each duty and function of the organizational element.

--A system of authorization and record procedures adequate to provide effective accounting control over assets, liabilities, revenues, and expenses.  
(FGMSD-76-27, Apr. 27, 1976)

### Appropriations

Appropriations for automated systems (various agencies)

#### Issues for consideration by the Committees on Appropriations

In approving plans for new systems, the Committees should be certain that the systems are adequately controlled to protect public funds.

#### ● Managers Need to Provide Better Protection for Federal Automatic Data Processing Facilities

##### Government-wide

Many of the Federal Government's 9,000 computers are inadequately protected against sabotage, vandalism, terrorism, or natural disasters. GAO found the cause to be poor security measures and/or recovery procedures for continuity of operations at a number of Federal computer installations. These problems made the installations susceptible to catastrophic losses caused by bombing, fires, floods, frauds, thefts, embezzlements, and human errors.

Office of Management and Budget officials generally agreed with GAO's findings but felt that further action was not warranted at that time. (FGMSD-76-40, May 10, 1976)

### Appropriations

Appropriations for ADP installations (various agencies)

#### Issues for consideration by the Committees on Appropriations

The Committees should question large Federal users of ADP systems regarding:

--Who is responsible for their computer security.

--Whether or not they use some type of risk management approach when determining security needs.

● Ways to Improve Management of Federally Funded Computerized Models

Government-wide

Each year the Government spends millions of dollars developing and using computerized models. A computerized model uses mathematical and logical rules and methods to represent how a process, physical object, or entity--such as an organization--will react under different conditions during a given time. Successfully developed models can help in the management of Federal programs.

The National Bureau of Standards, under the Department of Commerce, and the General Services Administration are responsible for establishing Government-wide automated data processing standards and developing Government-wide guidance for automated activities, respectively. However, neither agency provides specific guidance to assist Federal agencies in managing the development of computerized models.

GAO's analysis, of 57 models costing about \$21 million, showed that a lack of guidance contributed to the problems experienced in developing 33 of the models. The three broad categories of problems identified by GAO were inadequate management planning, coordination, and commitment.

These problems had certain adverse effects, such as cost overruns of about \$1.1 million for some models, unsatisfactory models costing about \$1.6 million, and development of some models taking 4 years more than planned.

GAO recommended that the Department of Commerce formulate standards and that the General Services Administration develop and provide guidance for improving Federal agencies' management of computerized models.

GSA and the Department of Commerce agreed with the need for Government-wide guidance to assist managers and developers in avoiding development problems; however, neither agency stated when it was prepared to take action. (LCD-75-111, Aug. 23, 1976)



## Appropriations

Research, Development, Test, and Evaluation (Army, Navy, Air Force)

Operation and Maintenance (Army, Navy, Air Force)

Operating funds of the Department of Commerce (National Bureau of Standards) and of GSA for Science and Technical Research and Automated Data and Telecommunications

## Issue for consideration by the Committees on Appropriations

The military departments could save money in future computerized model developments if the Department of Commerce and GSA implement the GAO recommendations.

## GOVERNMENT LABORATORIES

### More Improvements Needed in Equipment Management Practices in Government Laboratories

#### Department of Defense

GAO reported to the Congress that, although Federal property management regulations issued by the General Services Administration require Defense and civil agencies to make walk-throughs (periodic inspection tours) at laboratories to identify idle and unneeded research equipment and to establish laboratory equipment pools where appropriate, these techniques were not being used either effectively or at all to improve equipment utilization. Also, GSA had no procedures for verifying agencies' compliance with the walk-through and equipment pool requirements.

GAO recommended that the Administrator of GSA issue guidance which should require that each agency:

- Establish teams of top management and scientific personnel to make laboratory walk-throughs and report their findings to the head of the agency.
- Establish laboratory equipment pools or give the head of the agency written reasons why such pools are not needed.
- Prepare an annual report for the agency head on the use and effectiveness of equipment pools.
- Make periodic independent reviews of walk-through practices and equipment pool operations to determine their effectiveness.

GAO recommended that the Administrator also institute procedures to insure that agencies are complying with GSA's walk-through and equipment pool policy guidance and that this guidance is achieving the desired results.

The Administrator agreed to amend the Federal property management regulations to require action by agencies on walk-throughs and equipment pools. (PSAD-76-37, Dec. 3, 1975)

## Appropriations

Operation and Maintenance (Army, Navy, Air Force)  
Research, Development, Test, and Evaluation (Army, Navy,  
Air Force)

### Issue for consideration by the Committees on Appropriations

The success of the GAO recommendations depends on the agencies responsible for implementing GSA's policy guidance. Therefore, the Committee, in reviewing future appropriation requests for additional laboratory equipment, may wish to inquire about actions the Department of Defense is taking to achieve effective use of equipment.

## NORTH ATLANTIC TREATY ORGANIZATION

### Additional Costs of Stationing U.S. Forces in Europe

#### Department of Defense

The Jackson-Nunn amendment to the 1974 Defense Appropriation Authorization Act (Public Law 93-155) required the President to, among other things, reduce U.S. payments for added budgetary expenses incurred as a result of stationing U.S. forces in Europe.

GAO estimated that the United States may have paid as much as \$1.3 billion extra to station some of its NATO-committed forces in Europe instead of at home during fiscal year 1974. Defense's estimate of \$440 million has largely understated these costs, and the allies have not increased their contributions to help reduce them.

During informal discussions, Defense and State officials (1) challenged the way GAO's estimate of \$1.3 billion was developed, (2) disagreed with GAO's interpretations of the law's intent, and (3) cited the importance of giving what they termed other burden-sharing initiatives higher priority than budgetary support.

GAO recommended that the Congress consider whether the provisions of subsection (c) of the Jackson-Nunn amendment have been satisfied and whether there is a need for continued and more detailed progress reporting under subsection (d) of the amendment. (ID-76-32, Apr. 28, 1976)

#### Appropriations

Military Personnel (Army, Navy, Air Force)  
Operation and Maintenance (Army, Air Force)  
Procurement (Army, Navy, Air Force)  
Military Construction (Army, Navy, Air Force)

#### Issues for consideration by the Committees on Appropriations

Since the agencies apparently plan to take no action on GAO's analysis and conclusions, the Committees should further consider the agencies' informal position when making further NATO-related appropriations for Defense and military assistance programs.

## OVERSEAS MILITARY BANKING

### Overseas Military Banking: How It Is Financed and Managed

#### Department of Defense

Treasury reimbursed commercial banks \$16.7 million for operating losses reported by their overseas military banking facilities during 1972-74. Reimbursement was in the form of interest earnings on Treasury deposits placed with the banks. Additional undetermined costs were incurred by Defense for logistic support costs provided free to the banks.

GAO recommended that the Congress consider transferring the responsibility for program funding and management from Treasury to Defense and require the administering agency to submit an annual appropriation request to cover anticipated expenses.

GAO also recommended that the administering agency consider certain actions to minimize banking facility losses and improve management oversight of facility operations.

Treasury and Defense officials generally agreed with the GAO recommendations (ID-76-29, Dec. 12, 1975). A joint task force was established to assess GAO's recommendations and reassess the entire program.

#### Appropriation

A shift to management and funding responsibility of the program from Treasury to Defense would result in increases in the Defense Military Personnel and Operation and Maintenance appropriations. Treasury's general appropriations would not be materially affected since Treasury seeks no appropriation for program costs. However, the Treasury funds placed on deposit with the banks--the interest on which finances the banking facility losses--would be freed for other purposes.

#### Issues for consideration by the Committees on Appropriations

1. Transfer of responsibility for program funding from Treasury to Defense would require an increase in Defense appropriations. Treasury cash freed for reinvestment would result in a corresponding, but perhaps greater, rate of earnings than presently realized from the banks.

2. The transfer would place program costs with the agency deriving the benefits.

3. Transfer of management responsibility would entail a small increase in Defense personnel costs. Greater audit coverage would add to these costs. Treasury personnel costs associated with the program would be eliminated.

4. Implementation of actions aimed at reducing banking facility losses would mitigate the need for increased Defense appropriations.

## RADIO SPECTRUM MANAGEMENT

### Further Opportunities to Improve Radio Spectrum Management in the Federal Sector

#### Government-wide

The radio frequency spectrum is unique among our national resources and is probably one of the least understood. Unlike most other natural resources, it can be used without cost. It cannot be depleted through use, but it can be polluted or misused so as to prevent use by others. As a national and natural resource, the spectrum is used by the Government and the private sector in national defense, law enforcement, travel safety, education, resource management, entertainment, and for many other purposes. It is also an international resource that must accommodate all the world's radio users. (A radio wave, once transmitted, is no respecter of national or international boundaries.)

GAO reported on how Federal agencies are managing their share of the spectrum because it is important to the Government and the Nation that the spectrum be used effectively. Also, the demand for frequencies is increasing, and there are indications of intensive congestion in certain frequency bands.

A major problem is a lack of spectrum management personnel, both in numbers and in competency, needed to effectively manage the ever-increasing demands upon the finite spectrum resource. GAO recommended that the Office of Telecommunications Policy and the Office of Management and Budget identify and support the level of personnel and funding needed by agencies to surmount this problem, with particular emphasis on the needs of the military departments.

The agencies involved generally agreed with GAO's findings and conclusions. (LCD-74-122, Oct. 21, 1975)

#### Appropriations

Military Personnel (Army, Navy, Air Force)  
Federal Personnel (many Federal departments and agencies)

Issue for consideration by the  
Committees on Appropriations

Since this problem involves the efficient and effective management of a national resource which really is international in character, the Committees should ascertain the extent to which Federal departments and agencies (Army, Navy, and Air Force being three of the larger Federal users) have addressed and are attempting to resolve this problem.



## RENEGOTIATION BOARD

### Improvements Needed in Profit Limitation Legislation

#### Government-wide

GAO reviewed the operations and activities of the Renegotiation Board because of congressional interest to eliminate excessive profits on national Defense-related sales. The Board, an independent agency, was created under the Renegotiation Act of 1951 to eliminate contractors' excessive profits on Defense and space contracts and related subcontracts.

GAO found that (1) contractors who fail to submit filings, submit inadequate filings, or submit them late are not penalized under the Act, (2) the rationale for the new, durable, productive equipment exemption may not be valid, and (3) the minimum amounts of excessive profits below which the Board makes no collections may not be appropriate.

GAO recommended that the Congress (1) amend the Act to hold contractors responsible for furnishing all data required by the Board and have them show reasonable cause why they did not furnish the data, (2) provide penalties for late filing, (3) determine whether the new, durable, productive equipment exemption is valid, (4) require the Board to obtain and analyze profit and cost data on standard commercial articles and services exempt from the Act to determine whether significant amounts of excessive profits are escaping renegotiation, and (5) consider whether it is appropriate to have the minimum that has been established below which excess profits are not recovered. GAO also believes the Act should be extended for more than 2-year periods and that all Government agency contracts should be subject to the Act. (B-163520, May 9, 1973)

#### Appropriations

##### Salaries and Expenses (Renegotiation Board)

#### Issues for consideration by the Committees on Appropriations

Although none of GAO's recommendations have been enacted, legislative responsibility for the Renegotiation Act was transferred from the House Ways and Means Committee to the House Committee on Banking, Currency and Housing, Subcommittee on General Oversight and Renegotiation. This Subcommittee has proposed legislation that would significantly alter the Renegotiation Act and cover the bulk of the

recommendations included in the GAO report on this subject. Should the legislation be enacted as currently proposed, a considerably larger appropriation for this Board may be needed in the future.

## PART FOUR: WEAPON SYSTEMS

### COST-EFFECTIVENESS STUDIES

#### Improvements Needed in Cost-Effectiveness Studies for Major Weapons Systems

##### Department of Defense

Military departments make cost-effectiveness studies to determine which weapon system would best serve a mission need. These studies attempt to identify the system which would provide the greatest value for equal costs or, put another way, which requires the least cost to attain a desired level of effectiveness.

GAO examined Army studies for five major weapon systems. It found some bias in the studies which it attributed to the fact that they were prepared largely on the basis of assumptions, data, and methodology derived by advocates of the system within the Army.

The GAO review showed that the need for greater objectivity was also apparent in studies made by the other military departments. GAO recommended that the responsibility for making cost-effectiveness studies be placed with an independent organization within the Office of the Secretary of Defense or with a panel of reviewers drawn from personnel whose interests transcend those of a single military service. (PSAD-75-54, Feb. 12, 1975)

The Department of Defense rejected this recommendation, contending that it considered procedures whereby cost-effectiveness studies are reviewed at service headquarters, often with Defense representatives present, sufficiently objective.

##### Appropriations

Research and Development (Army)  
Procurement (Army)

##### Issue for consideration by the Committees on Appropriations

Cost-effectiveness studies are a factor in decisions which have a major impact on the Federal budget. Studies by a group independent of the interested military service would be likely to have greater objectivity than those prepared by system advocates.

## INDIVIDUAL SYSTEM STUDIES

### ● F-14A/Phoenix Weapon System

#### Department of Defense

The F-14A/Phoenix is an all-weather, carrier-based weapon system consisting of a fighter aircraft and an air-borne missile designed to engage a broad array of enemy weapons, including (1) air-to-surface missiles launched from masses of enemy bombers and (2) enemy fighters in escort and force projection roles.

GAO found that the average operational readiness rate of the F-14A was 37.2 percent during 1975. This low rate has been attributed to equipment problems and inadequate supply support. Spare parts shortages were present at the Miramar and Oceana Naval Air Stations and on both cruises in which the F-14A took part. Many F-14As have been maintained in operating condition by removing (cannibalizing) parts from other aircraft. Avionics reliability has been extremely low and for several major systems the reliability achieved ranged from about 6 to 14 percent of the desired objective.

GAO found that the Navy could spend about \$1.7 billion to complete development and equip the entire F-14A fleet with a new engine, the F401(571), which improves the F-14A's force projection mission, especially in air-to-air combat. The improvements, however, are offset by less specific range, decreased loiter time, and greater minimum fuel flow.

GAO recommended that the Secretary of Defense determine the reasons for the supply shortage and, in conjunction with the Navy, improve the situation.

GAO recommended that the Secretary of Defense thoroughly examine the plans for using a new engine for the aircraft in view of (1) the high cost of developing, producing, and retrofitting the engine into the F-14A aircraft and (2) the benefits to be derived. (PSAD-76-149 (Secret), Aug. 3, 1976)

#### Appropriations

Research, Development, Test, and Evaluation (Navy)  
Aircraft Procurement (Navy)

## Issues for consideration by the Committees on Appropriations

The Committees may wish to consider the action, if any, taken by the Secretary of Defense to improve the supply situation of the F-14A weapon system.

The Committees may also wish to consider the cost benefits to be accrued from developing a new engine for the F-14A aircraft system.

### ● Field Army Air Defense

#### Department of Defense

Field Army air defense systems are intended to protect high-value targets and ground combat forces from enemy air attacks. GAO reported that current U.S. air defense capabilities are relatively limited when compared to the threat posed by current and projected Warsaw Pact aircraft. Numerous Army studies of its air defense assets and needs have not produced any decisive actions to improve the Army's air defense capability.

GAO concluded that the Army should establish its needs for new air defense systems on the basis of the total mission requirements, considering the resources that could reasonably be made available for the mission.

GAO recommended that the Army, rather than justifying each system independently, prepare a mission-oriented budget to include a description of the weapon systems needed and indicate the priority for funding each requirement within the mission area.

Copies of this report were presented to the Congress.  
(PSAD-76-129, June 22, 1976)

### Appropriations

Research and Development (Army)  
Procurement (Army)

## Issues for consideration by the Committees on Appropriations

The Army, rather than justifying each system independently, should prepare a mission-oriented budget to include a description of the weapon systems needed and indicate the priority for funding each requirement within the mission area.

● Should the Gama Goat Be Improved or Replaced?

Department of the Army

Comments by users of the Army's Gama Goat, or M561 cargo truck, to GAO and the Army raise questions on the mission effectiveness of this vehicle. The Army is planning a product improvement program to increase vehicle performance. GAO questioned whether many of the serious problems can be corrected without major and costly modifications.

GAO believes that increased attention should be given to the consequences that could result if the vehicle is operated in combat. GAO recommended that, before the Army undertakes the product improvement program, the vehicle should be tested under simulated combat conditions supervised by an independent testing organization to determine whether to keep or replace the vehicle.

The Army did not agree with GAO's recommendation because it believes that sufficient data exists from extensive testing and field usage to support retaining and improving the vehicle. (PSAD-76-48, Dec. 9, 1975)

Appropriation

Other Procurement (Army)

Issue for consideration by the Committees on Appropriations

The House and Senate Appropriations Committees directed that the Army test the Gama Goat vehicle in a realistic environment and further recommended that no funds be obligated for product improvement kits for the vehicle until the testing is completed. GAO will continue to monitor the testing of this vehicle to insure Army compliance.

● Acquisition of a New Main Battle Tank

Department of Defense

Pertinent considerations in acquiring main battle tanks are the numbers, operational capabilities, and costs of tanks to be procured; their effective mix with other weapons; and the benefits to be derived from standardizing weapon systems among North Atlantic Treaty Organization members.

GAO examined these issues in reviewing the Army's program for acquiring the XM-1 tank and found that:

- Army cost-effectiveness studies had not considered whether qualitatively improving the main battle tank or fielding less costly weapons in greater numbers is a better solution to overcoming the Warsaw Pact's heavy numerical superiority in tanks.
- In recent tripartite tests involving the United States, Great Britain, and West Germany, a German 120mm gun showed most promise as an effective tank gun of the future. The Army planned to equip the XM-1 with its 105mm gun and rely on improved ammunition to increase its lethality. This decision was made, in part, to avoid weight and cost increases. The Soviets, employing a larger gun with a longer range on their tanks, may have a firepower advantage over the XM-1.
- A competitive tank developed in West Germany, the Leopard 2AV, was to be tested as a possible alternative to the XM-1. The Leopard, however, would not be ready for Army testing until some months after the decision on full-scale development of the XM-1 was due.
- The XM-1's survivability would depend, in part, on the Army's success in developing the Mechanized Infantry Combat Vehicle and its mounted Bushmaster gun, which are counted on to support the tank in combat.

GAO concluded that the Army was permitting the XM-1 program to proceed despite incomplete and inconclusive information concerning some of these issues.

GAO recommended that the Secretary of Defense accelerate studies which would consider the cost effectiveness of an alternative armored force not wholly dependent on the use of costly heavy tanks, and inform the Congress of the results of these comparisons and analyses at the next budget hearings.

Defense maintained that it had all the information necessary to decide whether to continue developing the XM-1. The Department said its tank decisions would be based on a thorough review of the prototype test results and a cost-effectiveness analysis. The Department did not believe it appropriate to include in this analysis the potential of possibly less costly force mixes as alternatives to a heavy tank force. It saw this as an unrelated question requiring separate study.

The Department also maintained that the 105mm gun was the only logical choice for a main gun, believing that the tripartite tests and its own testing had demonstrated that new 105mm ammunition would meet any future threat.

The Department would continue to study one light tank concept for possible adaptation after the XM-1's development and would consider the 120mm gun if its assessment of the threat changed.

In July 1976 Defense decided that the improved combat effectiveness and future cost savings accruing from standardization and interoperability within NATO merited a delay in full-scale development, and source selection was deferred. It also determined that, based on a revised threat assessment, the new tank would be fitted with a 120mm main gun. The incorporation of certain components of the German tank was also to be studied. (PSAD-76-113, June 24, 1976, and PSAD-76-113A, July 22, 1976)

### Appropriations

Research, Development, Test, and Evaluation (Army)  
Procurement (Army, Navy)

### Issues for consideration by the Committees on Appropriations

1. Whether the Department of Defense should be encouraged to develop light, cheaper tanks which, fielded in greater numbers, might better offset the Warsaw Pact's numerical tank advantage than more costly heavy tanks.

2. Whether the Mechanized Infantry Combat Vehicle and Bushmaster can be produced at an acceptable cost and with sufficient performance to support the XM-1.



## SELECTED ACQUISITION REPORTS

### How to Improve the Selected Acquisition Reporting System

#### Department of Defense

GAO has been working with congressional committees on improving the selected acquisition reports, which are the key recurring summary status reports to the Congress on Department of Defense weapon system acquisitions.

In a report to the Secretary of Defense, GAO identified 10 areas where improvements could result in increased usefulness of the selected acquisition report to the Department of Defense and the Congress. Defense agreed with some of the recommendations. Copies of the report were furnished to the House and Senate Committees on Armed Services and Appropriations. (PSAD-75-63, Mar. 27, 1975)

#### Appropriations

Research and Development (Army, Navy, Air Force)  
Procurement (Army, Navy, Air Force)

#### Issues for consideration by the Committees on Appropriations

This report contains information on shortcomings in the Department's selected acquisition reporting system (SAR) and GAO's suggestions for improving it. This information should assist congressional committees and Members of Congress in authorizing and appropriating funds for major weapon systems.

The Department of Defense revised its selected acquisition reporting instruction DODI 7000.3 in September 1975 to include some of GAO's recommendations. However, GAO does not agree with some of Defense's revisions. For example, GAO's report recommended that the Department establish precise criteria for adding systems. The revised DODI 7000.3 states that new SARs will be limited to those systems which have received Defense Systems Acquisition Review Council (DSARC) II approval or have entered full-scale development. In GAO's opinion, the Congress needs status information on major acquisitions prior to DSARC II, because significant funds are expended before this decision point and the DSARC II decision sharply curtails the options open to the Department and the Congress.

If the Committees want to insure meaningful action on GAO's recommendations, they should pursue these matters.

## TESTING

### Effectiveness of Testing Selected Major Weapon Systems

#### Department of Defense

GAO examined the test programs planned and accomplished for 10 major systems and found that:

- In 5 of 10 test programs, the plans either did not call for testing all major characteristics or important tests called for were not made.
- Despite omitted tests, the military services had planned to acquire the systems.
- The problems that GAO noted resulted primarily from economic constraints, lack of certain test resources, and insufficient management surveillance.

Past experience has shown that inadequate testing can lead to costly retrofit or redesign at a later date or to deploying inadequate weapons.

GAO recommended that the Secretary of Defense require documentation of changes to test plans and increase monitoring activities to insure that the military services make all the important tests on systems.

Defense officials stated that GAO looked at test programs when the Department was revising its procedures and was establishing independent test organizations within each military department.

They did not agree that increased surveillance was needed but did agree that certain specific actions were required to better control key testing. (PSAD-75-74, June 4, 1975)

#### Appropriations

Research, Development, Test, and Evaluation (Army, Navy, Air Force)

Procurement (Army, Navy, Air Force)

#### Issues for consideration by the Committees on Appropriations

As the Commission on Government Procurement pointed out, having independent organizations test weapon systems

is essential to the management process. GAO is still studying whether an independent test organization headed by military personnel and reporting through the military chain of command will counterbalance the usual optimism of program advocates.

PART FIVE: DEPARTMENT OF DEFENSE--

PROCUREMENT AND CONTRACTS

PROCUREMENT

Alleged Overobligation in the Fiscal Year 1972  
Appropriation for Other Procurement, Army

Department of the Army

GAO reported to the Chairman, House Committee on Appropriations, that a violation of the Anti-Deficiency Act (31 U.S.C. 665) had occurred in the fiscal year 1972 Other Procurement (Army) appropriation at the U.S. Army Electronics Command, Fort Monmouth, New Jersey. As of June 30, 1974, the overobligation was about \$40.2 million. However, GAO added that additional review at the Electronics Command and Materiel Command could change the amount of this deficiency and could disclose overobligations in other years and other procurement appropriations.

Subsequently, in October 1975, the Army notified the Chairman that there had been a serious breakdown in financial controls over Army procurement appropriations and that apparent overobligations which could involve more than \$150 million had occurred.

At Chairman Mahon's request, GAO began reviewing Army procedures to determine the amounts of the apparent overobligations, causes of violations, and whether improvements had been or are being made in the accounting systems to help prevent future violations.

In April 1976, the Army reported overobligations totaling \$205 million for three procurement appropriations. Nine other apparent violations are being investigated by the Army. GAO's review to fulfill the Chairman's request is still in progress. (FGMSD-76-2, Sept. 8, 1975)

Appropriations

Procurement of Ammunition (Army)  
Procurement of Aircraft (Army)  
Procurement of Missiles (Army)  
Procurement of Weapons and Tracked Combat Vehicles  
(Army)  
Other Procurement (Army)

Issues for consideration by the  
Committees on Appropriations

The Committees may wish to determine the status of investigations of apparent violations and the actions taken or planned to help prevent future violations.

## CONTRACTS

### Independent Research and Development

#### Department of Defense

Costs incurred for that part of a contractor's total research and development program not required to be performed by a contract or grant are known as independent research and development (IR&D) costs. The contractor decides on the areas of independent technical effort to be undertaken.

Costs of technical and administrative effort incurred in preparing and submitting bids and proposals on Government and non-Government contracts are known as B&P costs.

The Department of Defense considers IR&D and B&P costs as items of indirect cost or overhead to be allocated to the contractor's Government and commercial business. The magnitude of the Department's share of its major contractors' costs (more than \$800 million annually in 1974 and 1975) caused critics to propose alternative methods of obtaining and paying for this IR&D effort.

GAO was asked to study the Department's method and alternative methods. GAO recommended a statement of congressional policy on the purposes for which the Government supports IR&D and B&P costs, the appropriate amount of this financial support, and the degree of Government control. GAO favored a Government-wide policy based on the procedures adopted by Defense pursuant to section 203 of Public Law 91-441. (PSAD-75-82, June 5, 1975)

Hearings were held on the GAO report in September 1975 before the Subcommittee on Research and Development, Senate Armed Services Committee, and the Subcommittee on Priorities and Economy in Government, Joint Economic Committee. Testimony was heard from GAO, Defense, National Aeronautics and Space Administration, Energy Research and Development Administration, Office of Management and Budget, industry, and university representatives.

GAO subsequently advised the Subcommittee Chairmen that, if the Congress desires more cost visibility and control than is provided under the present method, an agency could be required to fully disclose its requirement in advance. The Congress could thus establish limitations or give direction. If this would not be acceptable, the Congress could, if it so desired, require the Government to

contract directly with contractors for the IR&D it wants.  
(PSAD-76-54, Dec. 10, 1975)

### Appropriations

Procurement (Army, Navy, Air Force)  
Research, Development, Test, and Evaluation (Army,  
Navy, Air Force)  
Operation and Maintenance (Army, Navy, Air Force)

### Issues for consideration by the Committees on Appropriations

1. Congressionally mandated changes in the Department's procedures could affect section 203 of Public Law 91-441 which restricts the Department's use of authorized appropriations for payment of IR&D and B&P costs.

2. Any change from overhead reimbursement to direct contracting would affect the appropriations structure of the Department's budget submission.

3. Adoption of a uniform Government-wide policy on the allowability of IR&D and B&P costs could alter individual agencies' incurred costs.

### Use of the MITRE Corporation

#### Department of Defense

GAO reviewed the Department's use of and relationship with the MITRE Corp., one of nine Federal Contract Research Centers. MITRE is technical advisor to the Air Force's Electronic Systems Division, its principal sponsor.

GAO found that

--the Division did not determine whether other contractors could have competed for the work MITRE did, as required by regulations governing MITRE's use;

--MITRE was not restricted to selected important projects requiring its particular capabilities, in accordance with Division regulations; and

--MITRE's diversification into non-Defense work has reached the point established by the Air Force to signal lessening of MITRE's usefulness to the Air Force.

GAO also questioned whether Defense is making ample use of its in-house resources.

In a report addressed to the Chairmen, House and Senate Committees on Appropriations and Armed Services, GAO recommended that the Secretary of Defense:

- Insure that MITRE is not assigned work that could be contracted for competitively or done in house.
- Insure that the Air Force justify with documentation each project that it determines only MITRE can meet.
- Strengthen the review and control over MITRE's diversification, including verification that accepting work from other sponsors will not affect MITRE's ability to respond to Defense needs.

The Air Force questioned MITRE's ability to maintain the quality and efficiency of Air Force work because of the growth in MITRE's non-Defense work. The Director of Defense Research and Engineering recommended that MITRE consider permanently separating its Defense work from its other work by dividing MITRE into two organizations. The office in which MITRE's non-Defense work would be centered would not be considered a Federal Contract Research Center.

The recommendations of the Director of Defense Research and Engineering pertaining to MITRE and the other Federal Contract Research Centers are subject to concurrence by the Congress. (PSAD-76-174, Sept. 29, 1976)

### Appropriations

Research, Development, Test, and Evaluation (Air Force)

### Issue for consideration by the Committees on Appropriations

Details of implementing the Defense Department's proposals realining the Federal Contract Research Centers, including the restriction of MITRE to Defense work, will reflect on budget submissions of the military services. The Committees' approval of the new policy will affect future appropriations requests.



## CHAPTER 2

### GENERAL SCIENCE, SPACE, AND TECHNOLOGY

#### PART ONE: MANNED SPACE FLIGHT

##### SPACE TRANSPORTATION

###### Status and Issues Relating to the Space Transportation System

###### Department of Defense and National Aeronautics and Space Administration

The primary objective of the Space Transportation System is to provide a new space transportation capability that will substantially reduce the cost of space operations and support diverse scientific, defense, and commercial uses.

The National Aeronautics and Space Administration (NASA) and the Department of Defense plan to request funds from the Congress for fiscal year 1978 to begin the production phase of the system. Costs for refurbishment of two development orbiters, acquisition of three production orbiters, Defense facilities at the western test range, the interim upper stage, and the space tug could eventually amount to about \$4.8 billion (real-year dollars). Several billion dollars more will be needed for actual operation of the space transportation system during the 1980s. The program has been under development since 1971, and, through fiscal year 1976, about \$3.1 billion has been authorized and appropriated to NASA and \$64 million to Defense. Total acquisition costs of the system are estimated by NASA to exceed \$12 billion. Operating costs through 1990 are estimated in excess of \$18 billion.

GAO recommended that NASA estimate and total all costs, including those funded from budgets other than its research and development budget. This would result in more complete and realistic estimates of the cost to develop the Space Transportation System. NASA disagreed, saying it presents project funding estimates to the Congress consistent with the budget structure in which its funding requests are reviewed, authorized, and appropriated. (PSAD-76-73, April 21, 1976)

##### Appropriations

Research and Development (NASA)  
Construction of Facilities (NASA)  
Research and Program Management (NASA)

Issues for consideration by the  
Committees on Appropriations

Improved reporting of cost and schedule information by NASA is needed throughout the entire project planning, approval, and development process because it gives the Congress a basis for deciding which projects are to be initiated, continued, modified, or terminated.

## PART TWO: SUPPORTING SPACE ACTIVITIES

### SATELLITE LAUNCHES

#### The United States Should Recover Full Costs of Reimbursable Satellite Launches

##### Department of Defense and National Aeronautics and Space Administration

GAO's report to the Congress discussed the policies and practices of the Department of Defense and the National Aeronautics and Space Administration which failed to identify and seek recovery of the full costs of reimbursable satellite launches. Since that time, NASA has developed tentative policy statements regarding reimbursement of its costs for launches involving the recoverable space shuttle, to begin in fiscal year 1980. The policy statements reiterate its apparent reluctance to seek full cost recovery, as observed by GAO on earlier reimbursable launches of communications satellites, because of foreign policy considerations and to attract customers for the recoverable shuttle. Defense has made no statements regarding its plans for recovery of costs incurred for such launches. (LCD-74-107, May 6, 1975)

### Appropriations

This function involves most Air Force and NASA appropriations categories, including Research and Development, Construction, Maintenance, Operation, and Personnel.

#### Issues for consideration by the Committees on Appropriations

1. Recovery of the full costs of reimbursable launches could reduce appropriations.
2. Requiring the agencies involved to fully disclose and justify discounts given to foreign entities and commercial corporations could result in fewer and smaller discounts.

## CHAPTER 3

### NATURAL RESOURCES, ENVIRONMENT, AND ENERGY

#### PART ONE: WATER RESOURCES AND POWER

##### BENEFIT-COST ANALYSES

##### Improvements Needed in Making Benefit-Cost Analyses for Federal Water Resources Projects

###### Department of the Army (Corps of Engineers)

Federal water resources projects are seldom authorized unless their estimated benefits exceed their estimated costs. GAO reviewed methods and procedures used by the Bureau of Reclamation, Department of the Interior; the Corps of Engineers (Civil Functions); the Soil Conservation Service, Department of Agriculture; and the Tennessee Valley Authority for making benefit-cost analyses for water resources development projects for such purposes as flood control, irrigation, power, recreation, fish and wildlife enhancement, and municipal and industrial water supply.

Because of the importance of the benefit-cost analysis to decisionmaking, benefits and costs should be determined by using uniform methods and procedures and considering all pertinent beneficial and adverse effects.

Executive branch policies, standards, and procedures for formulation, evaluation, and review of individual project plans for developing water resources were issued in May 1962 and printed as Senate Document 97.

GAO reported that:

- Benefits had not been computed in a consistent manner.
- Benefits had not been based on analyses of conditions with and without the project.
- Benefit computations had not been adequately supported.
- Project costs and induced costs (uncompensated adverse effects caused by construction and operation of a project) had not been fully considered in the benefit-cost determinations.

Causes of the problems in the benefit-cost determinations included:

- Generalized and incomplete agency guidance and instructions.
- Varying interpretations and inconsistent applications of Senate Document 97 criteria and agency-implementing procedures.
- Incomplete, or no, studies and analyses by the agencies of data for making determinations and computations.

The Water Resources Council developed "Principles and Standards for Planning Water and Related Land Resources," which became effective on October 25, 1973, superseding Senate Document 97. These principles were intended to provide the broad policy for planning activities, and the standards were intended to provide uniformity and consistency in comparing, measuring, and judging beneficial and adverse effects of alternative plans.

GAO made the following recommendations to the Secretary of the Army, for the Corps of Engineers; to the Secretaries of Agriculture and the Interior; and to the Chairman of the Board, Tennessee Valley Authority:

- Revise or develop, as necessary, detailed procedures for making benefit-cost determinations and submit them to the Water Resources Council.
- Periodically evaluate detailed procedures to recognize changed objectives, needs, and conditions and improved methods and procedures.
- Strengthen internal management procedures for assessing (1) benefit-cost determinations for conformance to the governing principles and standards, (2) implementing detailed procedures, and (3) the completeness and adequacy of supporting documentation.

GAO also recommended that the Chairman, Water Resources Council, have the Council:

- Review the agencies' detailed procedures for uniformity and consistency with the principles and standards.

--Periodically review the principles and standards to recognize changed objectives, needs, and conditions and improved methods and procedures.

The Council and the agencies generally agreed with the conclusions and recommendations. The Council told GAO in September 1975 that the involved Federal agencies were taking action to implement the recommendations. (RED-75-264, Sept. 20, 1974)

### Appropriations

General Civil Construction (Corps of Engineers)  
Soil Conservation Service (Department of Agriculture)  
Bureau of Reclamation (Department of the Interior)  
Payment to Tennessee Valley Authority Fund (Tennessee Valley Authority)

### Issue for consideration by the Committees on Appropriations

The adequacy of the corrective actions to be taken by the Council and the agencies should be considered when reviewing appropriations requests for Federal water resources projects.

## PART TWO: CONSERVATION AND LAND MANAGEMENT

### WILDLIFE CONSERVATION

#### Improved Federal Efforts Needed to Consider Wildlife Conservation on an Equal Basis with Other Features of Water Resources Developments

##### Department of the Army (Corps of Engineers)

GAO reported to the Chairman, Subcommittee on Fisheries and Wildlife Conservation and the Environment, House Committee on Merchant Marine and Fisheries, on how the Corps of Engineers (Civil Functions), Department of Agriculture, Department of Commerce, Department of the Interior, and Federal Power Commission were implementing sections 2 and 3 of the Fish and Wildlife Coordination Act. These sections of the Act provide for wildlife conservation to be coordinated with other features of federally funded or licensed water resources developments and to receive equal consideration.

GAO concluded from the projects reviewed that (1) in general, wildlife conservation had not been given equal consideration with other features of water resources developments, (2) significant and numerous breakdowns had occurred in the coordination process between wildlife and development agencies, (3) the roles and responsibilities of the wildlife agencies needed to be clarified, and (4) criteria needed to be established for determining the nature and extent of wildlife mitigation or enhancement measures as well as their justification.

GAO recommended that (1) the wildlife and development agencies, with the aid of the Office of Management and Budget, establish procedures to insure adequate coordination in carrying out the requirements of the Act and establish criteria to determine mitigation and enhancement measures and (2) wildlife agencies reach agreement on their respective roles and responsibilities and obtain needed funds and personnel.

The Federal agencies involved generally agreed with the recommendations. On June 26, 1974, the Subcommittee held hearings on the report and on various proposed amendments to the Act. (RED-71-206, Mar. 8, 1974)

## Appropriations

General Investigations and General Construction (Army: Corps of Engineers, Civil Functions) (Corps funds are transferred to the U.S. Fish and Wildlife Service, Department of the Interior.)

Resource Management (Interior: U.S. Fish and Wildlife Service)

Operations, Research, and Facilities (Commerce: National Oceanic and Atmospheric Administration, National Marine Fisheries Service)

## Issues for consideration by the Committees on Appropriations

wildlife agencies will need more funds and personnel to implement the Act's requirements. The development and wildlife agencies should consult each other early in the planning stage of a water resources development proposal. Also, the wildlife agencies should make the necessary studies so that a detailed wildlife report is available before a proposed development is authorized by the Congress or approved by others.



## CHAPTER 4

### COMMERCE AND TRANSPORTATION

#### WATER TRANSPORTATION

##### INLAND WATERWAYS

##### ● Factors to be Considered in Setting Future Policy for Use of Inland Waterways

###### Department of the Army (Corps of Engineers)

The Federal Government has spent much money to develop and operate the Nation's inland waterways but has permitted free commercial and recreational use of them. This policy has promoted such growth of the waterway transportation industry that facilities cannot handle traffic and environmentalists are objecting to waterway congestion.

GAO reported to the Congress that, by imposing a nominal waterway user charge, the Government could recover its annual operating costs without significantly diverting commercial traffic from the waterways. Any diversion of traffic, moreover, would probably reduce waterway congestion, lessen environmental disruption, and create potential energy savings and transportation efficiencies. GAO noted that the Secretary of Transportation had recently advocated a system of user charges and that legislation providing for user charges had been recommended.

GAO concluded that, in considering whether to continue to fund inland waterway facilities and impose waterway user charges, the Congress will need to consider the impact on waterway commerce, competing transportation modes, the environment, and energy consumption. (REC-76-35, Nov. 20, 1975)

##### Appropriations

General Expenses (Army: Corps of Engineer, Civil Functions)

General Construction (Army: Corps of Engineers, Civil Functions)

General Operation and Maintenance (Army: Corps of Engineers, Civil Functions)

## Issues for consideration by the Committees on Appropriations

1. In approving budget requests for waterway construction and operation programs, the Committees may wish to consider the impact such funding will have on economic, environmental, and other factors.

2. If waterway user charges are imposed, Federal operating costs would be reduced or eliminated, although additional general expense funds may be required to administer this activity.

### ● Federal Efforts to Extend Winter Navigation on the Great Lakes and the St. Lawrence Seaway--Status and Problems to Be Resolved

#### Department of the Army (Corps of Engineers)

In 1970 the Congress authorized the Corps of Engineers to demonstrate the feasibility of winter navigation on the Great Lakes-St. Lawrence Seaway system. Commerce on these waterways traditionally was suspended for about 3-1/2 months during the winter because of severe weather.

During the 4 years of the program, winter traffic had been extended in some of the Great Lakes. Much of the traffic, however, was not a direct result of the program.

GAO reported to the Congress that major problems had to be resolved before conclusive judgments could be made on the practicability of a permanently extended navigation system on the Great Lakes and the St. Lawrence Seaway. The major problems are (1) competing use of the waterways during winter by power and navigation interests, (2) lack of a coordinated plan of action with Canada, and (3) potential environmental damage. In addition, the program's preliminary economic analysis did not realistically portray the potential benefits and costs of a permanently extended navigation season program.

GAO recommended that the Secretary of the Army

--direct the Corps to reevaluate its procedures for determining traffic claimed for the demonstration program;

- require the Corps to include information in its funding requests and reports to the Congress on all participating agencies' uses of their regular appropriations for the demonstration program;
- direct the Corps to (1) resolve the problem between power and navigation interests, (2) work toward an agreement with Canada, and (3) complete the overall assessment of the expected environmental impacts; and
- require the Corps to resolve questions on the preliminary benefit-cost analysis.

The agencies concerned generally agreed with GAO's conclusions and recommendations and indicated that corrective action would be taken. (RED-76-76, Apr. 20, 1976)

### Appropriations

General Investigations (Army: Corps of Engineers, Civil Functions)

### Issue for consideration by the Committees on Appropriations

Major problems need to be resolved before the practicability of a permanently extended season can be determined.

## CHAPTER 5

### GENERAL GOVERNMENT

#### GENERAL PROPERTY AND RECORDS MANAGEMENT

##### RECORDS MANAGEMENT

##### Opportunities for Reducing Office Copier Costs in Multiagency Federal Buildings

###### Government-wide

Agencies in multiagency Federal buildings generally obtain office copiers independently of other building occupants. As a result, copier costs are increased and copiers are not efficiently used. General Services Administration figures show that costs for acquiring office copiers and related supplies have increased from \$38 million in 1964 to \$139 million in 1974.

GAO reported to the Administrator of GSA that centralized management of office copiers in multiagency Federal buildings could reduce costs by identifying copier needs for an entire building and determining the best method of fulfilling these needs. GAO recommended that GSA initiate a test program for centralized management of copiers in one or more multiagency Federal buildings and include copiers in its program for providing common services in such buildings.

GSA endorses the idea of centrally managing office copiers and agreed to initiate a test program. However, it believes agencies' desire to maintain their independence under traditional self-supporting arrangements will result in enforcement problems requiring support from the Office of Management and Budget, Joint Committee on Printing, and heads of Federal agencies. (LCD-76-109, Mar. 9, 1976)

##### Appropriations

Working Capital Fund (GSA: Federal Supply Service)  
Operation and Maintenance (Army, Navy, Air Force)  
Operating expenses of various departments and agencies

##### Issues for consideration by the Committees on Appropriations

The Federal Supply Service Working Capital Fund, which is reimbursed by agencies for printing and duplicating

services, will be used by GSA for its test program of centralizing copier services. Additional spending for copier leases or purchases and related supplies and services will be reflected in this fund. If the test results in a program for centralized copier services, then agencies' funding requests for copier supplies and leases or purchases of copiers should decrease significantly.