Department of the Army Historical Summary

Fiscal Year 1974

CENTER OF MILITARY HISTORY
UNITED STATES ARMY
WASHINGTON, D.C., 1978

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Compiled
by
KARL E. COCKE

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Preface

The *Department of the Army Historical Summary for Fiscal Year 1974* is the latest in a series of periodic reports of the Army's expenditures, work, and accomplishments that began with Secretary of War John C. Calhoun's report to President James Monroe in 1822. This year's report is the fourth to be published separately by the Army following cancellation of the *Annual Report of the Secretary of Defense*—a document which had incorporated the annual reports of all the service secretaries from 1948 through 1968.

The *Army Historical Summary* is based upon narrative contributions prepared by Army staff agencies having primary responsibility for the subject matter covered. The objective of the report is to present a clear, succinct account of major events and developments within the Army and to serve as a primary source of reasonably comprehensive and quickly retrievable information for both official and public use.

The compiler gratefully acknowledges the cooperation of the action officers on the Army staff who assisted in preparing the report and expresses his appreciation to the members of the Histories Division, U.S. Army Center of Military History, for their suggestions and wise counsel. His special thanks go to Mrs. Barbara H. Gilbert for her skills, patience, and understanding in editing the summary. The index was prepared by Miss Anne W. Beard.

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KARL E. COCKE

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HISTORICAL SUMMARY

Fiscal Year 1974

I. Introduction

In fiscal year 1974 no U.S. Army combat units were engaged in military operations in Southeast Asia for the first time in ten years. Although the Army's combat role in that war-ravaged area was over, the listing of casualties was not yet complete. The names of 31 more U.S. Army soldiers were added to the roll of battle casualties in Southeast Asia during the fiscal year—30 by board action following a presumptive finding of death and 1 from enemy fire during a Joint Casualty Resolution Center operation. The number of men wounded in battle also increased by five. The total number of Army personnel killed in action in the Southeast Asia conflict from 1 January 1961 to 30 June 1974 was 30,650, and another 205,056 were wounded. As of 20 June 1974, 279 men were still listed as missing, 206 of whom were missing in action, and the remainder were missing and unaccounted for. Another twelve were listed as captured.

Fiscal year 1974 was also the first time since 1948 that the Army was required to man its ranks on an entirely volunteer basis. Building upon personnel procurement and retention programs started in fiscal year 1973, and benefiting from a successful revitalization of the U.S. Army Recruiting Command, which was largely completed by November 1973, the Army succeeded in meeting its manpower requirements without relying upon the draft. On 30 June 1974 Army strength was 782,897 (which excludes 433 reimbursable active duty military personnel paid from Civil Functions, Reserve, and National Guard appropriations), some 17,000 less than at the close of the previous fiscal year, but 1,297 more than the year-end strength of 781,600 authorized by Congress. The all-volunteer Army was a success.

Because the drain on men and materiel to support Army forces in the battle zone had ended, substantial gains were made during the past year in rebuilding the readiness of units in the Regular Army's thirteen-division force structure. Increased materiel support was also provided to the Army's Reserve Components to enhance their state of readiness. Progress being made in materiel readiness was hampered, however, by the unprogrammed use of reserve stocks to support the needs of Israel during the war in the Middle East in October 1973. Readiness was also affected by the energy crisis, for restrictions placed on fuel consumption made a curtailment in operations and training necessary.

Significant progress was made in reducing headquarters staffing to the minimum and concentrating available resources in developing the Army's combat forces. During fiscal year 1973 stress had been placed on reshaping the headquarters structure in continental United States, and this year emphasis was on reorganizing Headquarters, Department of the Army, and overseas commands.

The Army introduced a number of programs during the year to conserve energy, and it actively participated in the preparation of the Department of Defense submission to the President's five-year energy research and development program. The Army contributed to the production of energy through sixty hydroelectric power plants operated by the Corps of Engineers. These plants provided 17 billion kilowatt-hours toward meeting the nation's energy needs for fiscal year 1974. To produce this amount of energy from nonrenewable natural resources would have required the burning of 30 million tons of coal or 700 billion cubic feet of natural gas or 5 billion gallons of oil.

Lessons learned from the October 1973 war in the Middle East, which pitted Soviet and U.S. weapons systems and equipment against each other, revealed that the Army needed to further its research and development program especially on tanks, infantry movement, and electronic warfare and night-fighting devices.

Additional details of the highlights described above, as well as other important events and problems experienced during the past year in the continuing quest to develop a thoroughly professional Army, are described in the chapters that follow.

II. Operational Forces

Army strength declined from around 800,000 to 783,000 over the course of fiscal year 1974, but the force structure remained basically the same—13 active divisions backed by 8 divisions and 21 combat brigades in the Reserve Components. The forward deployment of major active forces included four and a third divisions in Europe, one in Korea, two-thirds of a division in Hawaii, and special mission brigades in Alaska, Panama, and Berlin. Seven combat divisions were stationed in the continental United States.

The activations and inactivations within the Regular Army during the fiscal year are listed below. Of particular note was the activation of the first of three planned Ranger battalions in January 1974. These elite infantry units, composed of highly trained airborne-Ranger personnel, will be able to deploy rapidly to any location in the world, to infiltrate by air, land, or sea, and to operate independently for short periods or in conjunction with other U.S. or allied forces.

Activations	Inactivations
U.S. Army Forces Command	
1st Cavalry Division 2 tank battalions 1 infantry battalion (mechanized) 2 155-mm. field artillery battalions 1 infantry battalion (Ranger)	1st Cavalry Division 2 infantry battalions (airmobile) 1 155-mm./8-inch field artillery battalion 4th Infantry Division (Mechanized) 1 Honest John battalion 1 175-mm. field artillery battalion
U.S. Army, Europe	
4 Lance battalions	1 Sergeant battalion 5 Honest John battalions
U.S. Army, Pacific	
	1 Special Forces group 1 psychological operations group 1 military police battalion
U.S. Army Training and Doctrine Command	
2d Squadron, 6th Cavalry (formed 1 Jul 74 from 5th Battalion, 33d Armor)	5th Battalion, 33d Armor (discontinued 30 Jun 74)

Europe and the Middle East

As in the previous fiscal year, the Army sought to improve the ratio of combat units to support units within United States Army, Europe (USAREUR), by reducing or consolidating several USAREUR headquarters. In July 1974 the command reduced the headquarters staff by 5 percent, which yielded 130 spaces to fill high-priority manpower requirements and increase the readiness of combat units. Responding to an October 1973 Department of the Army directive calling for substantial reductions in management

headquarters throughout the Army, U.S. Army, Europe, planned for the elimination of two subordinate headquarters, the Theater Army Support Command and the Engineer Command, that would free 585 spaces for use in improving combat readiness during the coming year.

This year's REFORGER exercise was held during 29 September–21 November 1973. In the first phase of the exercise, 29 September–9 October, a force comprising 11,125 persons from the 1st Infantry Division and eight nondivisional units was flown in C–141 and C–5 aircraft to German airfields at Rhein Main, Ramstein, and Stuttgart-Echterdingen. After issue of prepositioned unit sets of equipment and assembly, the force moved by truck convoy to a major unit assembly area southwest of Nuremberg. Certain Charge, the field training portion of the exercise, extended from 10 to 19 October 1973. It involved extensive offensive and defensive maneuvers for all participants, which, in addition to the continental United States (CONUS) based force, included USAREUR, Canadian, and West German units. The final phase of the exercise got under way on 20 October as the CONUS units began movement to the major training area at Grofenwoehr, where final maintenance activities and test-firing of all major weapons systems took place. The main body redeployed between 30 October and 4 November 1973. The rear party, which was charged with moving all unit equipment back to prepositioned equipment storage sites, completed redeployment to home stations on 21 November 1973.

On 20 July 1973 the Secretary of Defense designated the Secretary of the Army executive agent for matters pertaining to U.S. military personnel serving as observers with the United Nations Truce Supervision Organization (UNTSO), an agency organized in 1948 to monitor the truce agreements between Israel and its Arab neighbors. When the Army assumed responsibility for U.S. support, the organization consisted of 217 military observers from sixteen nations, 8 of whom were from the United States, 5 from the Army, and 1 each from the Navy, Marine Corps, and Air Force. Two U.S. observers served at UNTSO headquarters in Jerusalem: one, Lieutenant Colonel Nicholas S. Krawciw, U.S. Army, as chief operations officer, and the other as personnel sergeant. Two observers were assigned in Lebanon, one as assistant operations officer and one to serve at observation posts on the Lebanese side of the Israel-Lebanon border. The remaining four members of the U.S. contingent manned observation posts on the Israeli side of the Golan Heights.

When war broke out in the Middle East in October 1973, Colonel Krawciw, in the absence of the UNTSO chief of staff, was

the senior United Nations official at UNTSO headquarters. He was responsible for observer operations and reporting to the United Nations Secretary General during the early days of the war. The U.S. military observers, some of whom were stranded for days at observation posts in the thick of the fighting, performed creditably. One observer, Lieutenant Commander Merle A. Waugaman, U.S. Navy, received the Bronze Star Medal for valor in the performance of his duties on the Golan Heights.

The U.S. government assisted in supporting the United Nations Emergency Force (UNEF), which was established by United Nations resolution to supervise the disengagement of Egyptian and Israeli forces on 25 October 1973. Air transportation for a number of UNEF contingents was furnished, military assistance deliveries to Panama were expedited in order to equip the Panamanian contingent, and other materiel support was provided on a reimbursable basis upon request by the United Nations. Since the establishment of the United Nations Emergency Force, the U.S. Army has furnished $2 million in logistical support.

On 30 November 1973 a four-service augmentation force consisting of twenty-eight men deployed for duty with the United Nations Truce Supervision Organization, which raised the U.S. contingent to thirty-six observers. The new authorization, which was the same as a new Soviet contribution, reflected the understanding between the United Nations, the Soviet Union, and the United States to keep military forces of permanent members of the United Nations Security Council out of the area on a unilateral basis or as part of the United Nations Emergency Force.

A change in political conditions permitted the increased American observer force to perform duties on the Syrian and Egyptian sides of the cease-fire lines in the Sinai and Golan Heights. The four American military officers assigned by the United Nations Truce Supervision Organization to Damascus in December 1973 represented the first official U.S. presence in Syria since diplomatic relations between the two countries were severed in 1967. In both Syria and Egypt, officers of the Soviet Union and the United States performed observer duties side by side.

The Pacific and the Far East

The withdrawal of U.S. forces from the Far East continued throughout fiscal year 1974, especially from Thailand, where the most recent series of withdrawals, begun in March 1974, would eventually involve approximately 10,000 military personnel as well as strategic, tactical, and support aircraft. U.S. Army Special

Forces, Thailand (USASFT), which had been established in 1966 to assist the Royal Thai Army in conducting counterinsurgency training, was inactivated on 31 March 1974 because the Thai Army had learned to train its own counterinsurgency forces. During its existence, the U.S. Special Forces also gave advice and assistance to the Royal Thai Army Special Warfare Center, trained Thai Special Forces such as air base security personnel, and conducted a limited civic action program. To accomplish their mission, USASFT detachments were located with Thai Special Forces at several training camps scattered throughout Thailand. The task of the detachments was to instruct the Thai trainers. The men of the detachments, however, did not assume a direct training role and did not participate in Thai combat operations against insurgents.

Following the withdrawal of U.S. Army Special Forces, Thailand, the 1st Special Forces Group (–) stationed in Okinawa and its associated psychological operations, civil affairs, engineer, and intelligence detachments—which were collectively termed Security Assistance Force (SAF), Asia—were withdrawn from the Pacific. Most of SAF, Asia, including 1st Special Forces Group (–), was inactivated during June 1974. The only U.S. Army Special Forces unit remaining in Asia at the close of the fiscal year was an eight-man detachment in Korea.

During fiscal year 1974 the 19th Logistical Support Brigade was activated in Korea to become the major logistical headquarters in place of the 19th and 23d General Support Groups. The brigade assumed the support missions of both group headquarters, many of the supply responsibilities previously performed by Headquarters, Eighth U.S. Army, and certain logistical functions of the Joint U.S. Military Advisory Group, Korea, in support of U.S. security assistance to the Republic of Korea.

For Okinawa the Department of Defense (DOD) had planned for the eventual release of 29 of 77 facilities and the partial release of 19 others. Of forty facilities controlled by the Army, twenty-two were scheduled for release. During fiscal year 1974, the Army released all or portions of 13 facilities, of which 6, covering approximately 600 acres, were returned to the government of Japan, and 7, involving an area of about 1,800 acres, were taken over by other U.S. military services.

The Army continued to provide materiel support to the armed forces of the Republic of Vietnam on a piece-for-piece replacement basis in accordance with Article 7 of the cease-fire agreement. On 1 July 1974 the Army's primary logistics role in Vietnam changed from active program management to the execution of supply actions directed by the Office of the Secretary of Defense.

Following the withdrawal of U.S. combat forces from Vietnam in March 1973, the American Embassy in Saigon, pursuant to Article 12 of the Geneva Convention, assumed the role of monitoring U.S. obligations for 103 unrepatriated prisoners of war captured by U.S. forces and held by Republic of Vietnam forces. Of these, sixty-two refused repatriation, and forty-one were detained by the Republic of Vietnam to serve civil sentences for crimes committed while in a prisoner of war status. The first group was released into Vietnamese society in June 1973. The civil sentences imposed on individuals in the second group were commuted, and they were released or repatriated on 7 March 1974 in accordance with an agreement reached on 1 February 1974 during the Two Party Joint Military Commission negotiations.

In mid-August 1973, Army forces in the Pacific gave major assistance to flood-ravaged Pakistan. As requested by the United States Agency for International Development through the Joint Chiefs of Staff and the Pacific Command, ten boats carrying disaster relief teams from the Special Action Force, Asia, then based on Okinawa, and a detachment of six UH–1 helicopters from the 52d Aviation Battalion stationed in Korea were deployed to the disaster area on 19 August 1973. The relief force evacuated personnel, supplied food, did spraying operations, and supported an immunization program. The relief teams redeployed on 10 September, and most of the aviation detachment, less the six helicopters that were subsequently turned over to Pakistan, returned to Korea on 1 October.

The Western Hemisphere

U.S. Army, Alaska, continued its mission of assisting the North American Air Defense Command and conducting the ground defense of the northernmost area of the United States. The 172d Infantry Brigade, based at Forts Richardson and Wainwright, was the command's major combat force. It participated in two joint training exercises during the year. In February 1974 it was announced that Headquarters, U.S. Army, Alaska, would be discontinued. After 1 July 1974, Army operations in Alaska were to be carried out by the 172d Infantry Brigade under the command and control of U.S. Army Forces Command, Fort McPherson, Georgia.

During fiscal year 1974 the U.S. Army Forces Southern Command (USARSO) improved its military readiness. The potential for violence directed against the Panama Canal Zone decreased somewhat because progress was being made in Panama Canal Treaty negotiations. The tenth anniversary of the 9 January 1964 riots, officially declared a day of mourning by the government of

Panama in memory of those who died, passed quietly and without incident.

In preparation for discontinuing U.S. Army Forces Southern Command, which was to be completed by 31 December 1974, command of its forces was transferred to the U.S. Army Forces Command at Fort McPherson, Georgia, on 1 July 1974, and a phased reduction and transfer of functions to the 193d Infantry Brigade (Canal Zone) was begun. The U.S. Army Training and Doctrine Command, Fort Monroe, Virginia, assumed responsibility for the Army Reserve officer training program and other individual training and doctrinal functions in the Canal Zone. Similarly, nontactical medical units and facilities came under the command of the U.S. Army Health Services Command, Fort Sam Houston, Texas, and the U.S. Army Communications Command remained responsible for communications activities.

In other actions related to the Army's role in Latin America, the Secretary of the Army in January 1974 approved Army staff proposals designed to further rapport with Latin American military representatives. Included among these were the Secretary's meeting with honor graduates of Latin American military academies, his attending functions at the Inter-American Defense Board, and his making an address before the students of the Inter-American Defense College. Also, following a four-year hiatus, the Chiefs of Staff of the American Armies met in Caracas, Venezuela, in September 1973. The U.S. Army delegation was led by its Chief of Staff, General Creighton W. Abrams. The main conference was preceded by the Intelligence Conference of American Armies which, among other activities, prepared an estimate of the military situation in the Americas. This report was, in part, the basis for open and frank discussions related to the Inter-American Military System.

Within the United States the major change in the status of the Army forces involved air defense units. The U.S. Army Air Defense Command (ARADCOM) began fiscal year 1974 with 48 Nike-Hercules batteries (21 active and 27 National Guard) dedicated to the defense of continental United States. Additionally, ARADCOM commanded 3 air defense battalions (1 Hercules and 2 Hawk), which had the dual mission of providing CONUS air defense and maintaining mobile readiness for contingency missions overseas. A review, which was directed by the Secretary of Defense, of the continental air defense mission against the strategic nuclear threat indicated that changes should be made in light of the Soviet's increased intercontinental ballistic missiles (ICBM) capability as compared to the diminishing capabilities represented by manned aircraft. The Department of Defense, in August 1973,

placed a lesser priority on maintenance of the existing posture for defense against manned aircraft and directed the phase-out of the forty-eight Nike-Hercules batteries assigned to CONUS defense. The remaining four Nike-Hercules units and eight Hawk units in Florida were retained for contingency and training missions. As a consequence of the 48 battery inactivations, which began in March 1974, 2 region, 8 group, 13 battalion, and ARADCOM headquarters were planned for inactivation by December 1974. Current strategy for CONUS air defense, which takes into account the prohibition for continental defense against strategic missiles as set forth in the SALT (Strategic Arms Limitation Talks) Treaty, emphasizes attack warning and surveillance and control of our airspace rather than active defense. Available to carry out this strategy are 20 interceptor units consisting of 6 U.S. Air Force active duty F–106 squadrons; 6 F–106, 6 F–101, and 2 F–102 Air National Guard squadrons; and the 31st Air Defense Artillery Brigade, which consists of the four Nike-Hercules and eight Hawk batteries in Florida.

Readiness

Army readiness underwent steady improvement throughout fiscal year 1974. Early in the year the Army instituted a revised unit readiness reporting system under the provisions of Army Regulation 220–1. The revised system promoted one Army and total force goals by bringing Reserve Component and Regular Army units under the same reporting system. Concurrently, the Army's readiness reporting procedures were merged with the Joint Chiefs of Staff readiness reporting system, thus eliminating duplication and simplifying procedures while improving accuracy and timeliness. Field commands liked the revised system for its simplicity, reduced reporting burden, and improved timeliness. By June 1974, the Army was able to classify all its major units as ready for combat.

The Army's overall logistic readiness also improved significantly during fiscal year 1974. Although reorganizational adjustments and changeover to the G series of the tables of organization and equipment caused some equipment shortages, these were overcome through intensive management programs, on-site visits, and surveillance of readiness reports. As the period closed, the availability of equipment on hand had reached authorized levels in 93 percent of all reporting units, and 80 percent of the units reported that equipment status, which includes the condition of equipment as well as its availability, was also at required levels. The established goals for this period, 90 percent for equipment on hand and 70 percent for equipment status, had been surpassed.

Command and Control

During the past year improvements in command and control were concentrated on the Worldwide Military Command and Control System (WWMCCS). The WWMCCS Objective Plan underwent its annual review, and revisions emphasized crisis management, support of selective release of nuclear weapons, and the interface requirements between strategic and tactical command and control systems. In Europe command, control, and communications abilities and limitations were examined, problem areas identified, and operational improvements made.

The WWMCCS automatic data processing (ADP) contract was amended to permit greater flexibility in the system's configuration and to allow a longer period for ordering and delivering remote terminals and other components. As noted in last year's report, WWMCCS computer systems had been set up during fiscal year 1973 at three sites. The remaining systems were installed and accepted as follows:

Headquarters	Testing Completed
U.S. Army Forces Command	12 July 1973
U.S. Army War College	8 August 1973
U.S. Army, Pacific	23 October 1973
Military Traffic Management and Terminal Service	9 November 1973

Hardware security at all seven of the completed sites was improved by the installation of off-line cathode-ray tubes, teletypewriters, and remote line printers.

Civil Affairs and Psychological Operations

The Regular Army civil affairs structure was affected by two decisions taken during fiscal year 1974. The first was to reorganize the civil affairs units at Fort Bragg, North Carolina, into a single battalion during fiscal year 1975. The second involved inactivation of the two forward-deployed civil affairs units. The 1st Civil Affairs Battalion in the Pacific was inactivated at the end of the reporting period, and the 3d Civil Affairs Group in the Southern Command will be placed on the inactive list during the coming year. With these changes in force structure only one battalion will remain to meet the requirements for civil affairs support in contingencies short of mobilization. By necessity, functional civil affairs support will be limited and emphasis placed on general support. Offsetting the change in support is the freeing of 694 spaces for higher priority combat roles.

The reorganization of civil affairs units in the U.S. Army Reserve was again deferred pending resolution of questions stemming from the proposed reduction of the Reserve Component structure by 48,000 paid drill spaces.

In the field of psychological operations, the development of the

PSYOP Automated Management Information System (PAMIS) continued. The first system component, the Foreign Media Analysis Subsystem, currently contains a two-year data base derived from selected news media of the People's Republic of China, Democratic People's Republic of Vietnam, and Democratic People's Republic of Korea. The completion of the Foreign Area Data Subsystem led to the development, in June 1974, of a test model PSYOP bank for a specific country. The PSYOP Effects Subsystem, the final component of PAMIS, uses data from other subsystems, current intelligence, and preestablished indicators of effects. The Effects Subsystem will be designed to measure the effectiveness of PSYOP programs and campaigns. Under current Army planning, the full development of the PSYOP Automated Management Information System and the refinement of technical procedures and instructional manuals are to be completed by the end of fiscal year 1976.

Chemical, Biological, and Nuclear Matters

The Army and other DOD agencies extensively reviewed chemical warfare policies during the year. The Army accelerated programs to improve its defense against chemical, biological, and radiological (CBR) warfare in response to elaborate Soviet capabilities in this area as revealed by equipment captured from Soviet-equipped Arab forces during the October 1973 Middle East war: all vehicles and all soldiers captured were adequately equipped against CBR agents.

Subcommittees of the U.S. Senate and the U.S. House of Representatives Foreign Affairs Committees held numerous hearings on the nation's chemical warfare policy. Findings and recommendations were not completed by the end of the fiscal year, nor had the U.S. Senate ratified the Convention on the Prohibition of the Development, Production, and Stockpiling of Bacteriological (Biological) and Toxin Weapons, and on their Destruction. The convention, which was described in last year's report, will also require the approval of the Soviet Union and the United Kingdom before it enters into force.

The Army's request for legislative authority to abolish the Chemical Corps was submitted to Congress on 22 May 1973, but no action had been taken on the matter by the end of fiscal year 1974. Legislative approval was also sought to permit the sale of 1,294 one-ton containers of obsolete phosgene stored at Rocky Mountain Arsenal, Denver, Colorado. This material is identical to a carbonyl chloride commercial chemical used in the production of plastics. Approval of the request would eliminate the re-

quirement to dispose of this material by chemical neutralization and would result in a substantial savings to the government.

The first phase of Project Eagle, the disposal of an obsolete mustard agent stored in 3,407 one-ton containers at Rocky Mountain Arsenal, was completed in March 1974. The second phase of the project, the disposal of 21,115 obsolete M34 GB Clusters, was started in October 1973. Also, the Secretary of Defense on 13 October 1973 decided to dispose of the GB bulk agent and munition deterrent and retaliatory stockpile at Rocky Mountain Arsenal, and this task was added to the second phase of Project Eagle. The fall of 1976 was set as the target date for completing the expanded project.

As noted in previous reports, Operation Chase involved the disposal, in August 1970, of obsolete chemical munitions on a liberty ship hulk by scuttling. Afterwards, the Navy completed its fifth and last survey of the Operation Chase disposal site and found no contamination of the water surrounding the sunken hulk or evidence of any noticeable change in sea life.

In tactical nuclear operations, the U.S. Army Training and Doctrine Command began work on converting the broad concepts and policies contained in a paper entitled Deployment and Employment Policy for Tactical Nuclear Weapons, which was approved by the Chief of Staff in fiscal year 1973, into more detailed doctrine suitable for field manuals. The Concepts Analysis Agency was to review and refine existing methodologies for determining tactical weapons requirements to incorporate these concepts. The study, Tactical Nuclear Requirements Methodology, was scheduled for completion in December 1974.

Security Assistance

Considerable progress was made during fiscal year 1974 in planning the levels of war reserve stocks for allied nations. In consonance with the Nixon Doctrine and congressional actions, the United States is relying more heavily on allies to develop their own defense capabilities. To aid in this process, the U.S. provides security assistance materiel and services under grant aid and sales arrangements.

In recognition of the burdens on allies and the need for rapid logistic support under wartime conditions, the United States undertook a program to acquire war reserve stocks that can be used to meet emergencies. To this end, plans were developed to use appropriated funds for war reserve stocks to meet the needs of selected countries and regions in support of U.S. strategy and national interests. Also, the U.S. Army War College Strategic

Studies Institute began to compare and evaluate U.S. and Soviet security assistance system capabilities. The study has the aim of discovering how the Soviets can move massive quantities of equipment into any area in the world to meet political requirements, apparently on very short notice, without degrading their own readiness. It is designed to emphasize those characteristics of the Soviet system which enhance responsiveness and to identify U.S. characteristics that could be modified to make U.S. security assistance more effective.

The approach generally followed in analyzing the defense capabilities of an allied country for the purpose of providing security assistance has been to examine its combat forces, support forces, and economic and social structure. Although military planners have done a thorough job of analyzing combat forces, they have often neglected the support capabilities that a country needs to defend itself. A major cause for this neglect has been the lack of an analytical framework. Recognizing this, the Army contracted for a study by the Stanford Research Institute to develop a framework that, when applied to a particular country, should enable the analyst to understand more fully all major factors that pertain to a country's defense capabilities and to identify more readily deficiencies in its defense posture that could be corrected by U.S. security assistance.

Foreign aid legislation for fiscal year 1974 lifted a number of the restrictions and limitations imposed on U.S. security assistance; for instance, the dollar limits on previous grant aid to Latin America and Africa were lifted, as was the requirement that grant aid countries deposit an amount equal to 10 percent of their programs. In addition, the Congress repealed the requirement that U.S. military assistance advisory groups certify the ability of host countries to use military equipment provided under the Foreign Assistance Act of 1961, as amended. On the other hand, certain provisions of the law were made more stringent. Tighter control was placed on furnishing excess defense articles to foreign countries, and prohibitions were established against providing police training to foreign students outside of the United States.

United States security assistance was a major factor in support of combat operations in Cambodia during the past year. Unfortunately, the Cambodian operation drew grant aid funds away from other countries, not only in Southeast Asia, but throughout the world. For example, the full $250 million authorized by Congress for emergency security assistance was applied by the President to the needs of Cambodia, principally for ammunition.

This sum, added to the normal grant aid program, gave Cambodia a total of $375 million to sustain its defense operations.

Both Laos and the Republic of Vietnam continued to receive their military assistance through Department of Defense appropriations or Military Assistance Service Funds (MASF) during the reporting period. At the end of the fiscal year, however, funding for Laos was transferred by congressional determination from MASF to the Military Assistance Program (MAP) under the Foreign Assistance Act.

Faced with reduced grant aid in fiscal year 1974, Thailand showed increased interest in acquiring military materiel through the Foreign Military Sales program. Thailand's improved economic posture allowed this partial transition, which is in step with the U.S. policy of encouraging greater self-reliance by countries in reaching adequate defense capabilities.

During fiscal year 1974 Latin American countries endeavored to modernize their armed forces for internal defense and mutual security. Despite decreasing levels of MAP grant aid funds available to support the security assistance effort worldwide, MAP training programs were maintained in the majority of Latin American countries at only a slightly reduced level. Foreign military sales increased as emphasis on grant aid decreased.

Support to Chile was increased after the overthrow of the Allende regime. This assistance program is expected to receive a high priority as the Chilean government modernizes its military forces.

In Ecuador, the security assistance program was reestablished in fiscal year 1974 following a three-year lapse brought on by the U.S.-Ecuadorian dispute over fishing rights and territorial sea claims. The new program demonstrated U.S. interest in Ecuador through resumption of close military-to-military relations with the Ecuadorian armed forces and through promotion of mutual security interests.

Peru and the United States were also involved in a fishing dispute before fiscal year 1974. The present security assistance program is designed to improve relations between the U.S. and Peruvian governments generally, and the military forces of the two countries specifically.

Security assistance to Bolivia remained at a high level throughout the year. Materiel assistance continued to be based primarily on grant aid rather than foreign military sales credits.

For African countries, the $40 million congressional ceiling on foreign military sales was retained. Cash sales and training costs, however, were excluded for the first time in computing the ceiling. Meanwhile, several African nations, particularly those countries

where U.S. installations are located, showed an increasing interest in receiving U.S. equipment and materiel under the Foreign Military Sales program.

In the Middle East, U.S. Army engineers and explosive ordnance demolition technicians joined elements of the U.S. Navy in helping the United Arab Republic reopen the Suez Canal. Operating as part of Combined Task Force (CTF) 65, Army troops trained and subsequently advised elements of eight Egyptian Engineer battalions and two Egyptian Explosive Ordnance Demolition battalions on minefield clearance and explosive ordnance demolition procedures. The operation, code name NIMBUS MOON LAND, began on 11 April 1974 and was originally scheduled to last at least one year. The professional competence demonstrated by both the Egyptian Army trainees and U.S. Army trainers and advisers, however, justified a more optimistic prediction. The Army portion of the Suez Canal operation should be completed in late July 1974.

Countries throughout the Middle East, particularly Israel and Saudi Arabia, expressed more interest, too, in obtaining first-line U.S. military hardware through the Foreign Military Sales program.

Training, a major military assistance activity, was supported at higher levels in fiscal year 1974 than in the previous year. *Table 1* shows the fiscal year 1974 program as provided for in the Foreign Assistance Act.

TABLE 1—MILITARY TRAINING UNDER THE FOREIGN ASSISTANCE ACT IN FISCAL YEAR 1974

	Europe Area	Pacific Area	Latin America Area	ABC [1] Area	Total
CONUS school					
Spaces	4,545	4,063	251	357	9,216
Students	3,441	3,396	151	296	7,284
Oversea school					
Spaces	1,806	23	1,483	142	3,454
Students	1,806	23	1,455	142	3,426
Third country					
Spaces	2,907	—	—	—	2,907
Students	2,907	—	—	—	2,907
Orientation					
Tours	13	6	6	—	25
Participants	55	28	212	—	295
Mobile training teams (man-years)	4.0	6.0	8.6	—	18.6
Field training service (man-years)	13.0	14.5	—	—	27.5
Training for other departments					
Spaces	4	1,189	10	—	1,203
Personnel	4	401	5	—	410
Total training dollar value (in millions)					
MAP	$2.320	$5.081	$4.304	—	$11.705
MASF	—	2.841	—	—	2.841
FMS	8.670	.484	.003	$.509	9.666

[1] Australia, Britain, and Canada

Military Support to Civil Authorities

The Army gives substantial support to federal, state, and local agencies through a number of continuing programs, such as civil defense and the Military Assistance to Safety and Traffic (MAST) program, and in emergencies, such as natural disasters and civil disturbances.

On 1 October 1973 responsibility for Army support of the Department of Defense Domestic Action Program shifted from the Office of the Deputy Chief of Staff for Personnel to the Office of the Deputy Chief of Staff for Operations and Plans. On 20 November 1973, the program was redesignated the Department of Defense Community Service Program, similar in name to the Army Community Service Program but an altogether unrelated activity. Near the close of the fiscal year, the Assistant Secretary of Defense for Manpower and Reserve Affairs acted to decentralize the program, but a final decision on whether or not it should remain a DOD program or be maintained on a separate basis by each of the military services was still pending.

A major responsibility of the Defense Civil Preparedness Agency (DCPA), successor agency to the Office of Civil Defense, is the operation of a national civil defense communications and warning system for transmitting information on impending enemy attack to all levels of government and to the public. The U.S. Army Communications Command (USACC) provides the communications support required by DCPA to carry out its communications and warning functions. A revised memorandum of understanding between DCPA and USACC was approved in March 1974, superseding an outdated 1966 agreement. Under the new agreement, USACC responds to policy guidance and requirements from DCPA on communications and warning, operates the emergency systems, has technical control over the three National Warning Centers, provides staff assistance to DCPA regional directors, and handles budgeting, funding, and supply for the DCPA communications and warning systems that it supports. DCPA oversees operations, is responsible for the warning officers assigned to the National Warning Centers, and provides funds for the development of radio warning systems.

Fiscal year 1974 was a period of reduced yet extensive explosive ordnance disposal operations. The Army responded to 787 requests from the U.S. Secret Service to eliminate explosive hazards in vehicles and facilities frequented by key government officials and other dignitaries. The Army also met over 3,300 requests from civil authorities to deal with the hazards associated with bomb

threats, transportation accidents involving explosives, and disposal of war souvenirs. Additionally, the Army trained 500 students from state and federal law enforcement agencies to handle homemade bomb threats. By helping civil agencies to increase their explosive ordnance disposal capabilities, the Army reduced its own work load. All told there was a 7 percent drop in the number of ordnance disposal requests during fiscal year 1974.

The Army was also involved in the fight against terrorism. Public Law 92–539, enacted on 24 October 1972, had extended federal protection to foreign officials and official guests of the United States and to their families and staffs, some 137,000 persons in 182 U.S. cities. The Federal Bureau of Investigation, working closely with local authorities, was made responsible for directing operations against criminal activity, including acts of terrorism, covered by the statute. The Departments of Justice and Defense agreed that Defense would respond to reasonable FBI requests for military resources—materiel, facilities, and technical advisers—to help combat terrorism. Designated by the Secretary of Defense as executive agent, the Secretary of the Army ordered the Army staff, specifically the Directorate of Military Support, to assist the FBI.

In August 1973, the Secretary of the Army approved an FBI request to purchase M16 rifles, M79 grenade launchers, M1903 sniper rifles, and associated munitions for FBI Special Weapons and Tactics teams at the FBI Academy, Quantico, Virginia. On 17 April 1974 the Under Secretary of the Army approved a second request to buy military ordnance items. Then in late June the Under Secretary approved a third request, this time for helicopters to train personnel in descending onto the rooftops of buildings to rescue hostages. Using CH–46 and UH–1 helicopters, the Marine Corps was to conduct the training at Quantico, Virginia. Initially, some sixty FBI personnel were to participate. After an evaluation by the Department of Defense, the program may be expanded to include the training of approximately a thousand members of FBI Special Weapons and Tactics teams.

Federal agencies involved in drug and narcotic interdiction continued to receive the Army's military support. Assigned Army staff responsibility in August 1973, the Director of Military Support assisted the Drug Enforcement Administration (DEA) by providing enlisted technicians to train DEA people how to operate and maintain radars and sensor devices and by lending and servicing military vehicles. The Army increased its loan of T–41B aircraft from four to nine. It also helped the Drug Enforcement Administration in its support of the government of Jamaica's

"Operation Buccaneer," an attack against marijuana production and trafficking, by lending four helicopters and six trucks and training DEA pilots how to operate the helicopters.

Army support of the U.S. Customs Service during the past year included the loan and sale of radars, night vision devices, sensor equipment, and vehicles. The U.S. Customs Service also participated with the Army in the procurement of certain sensors and night vision goggles.

On 16 November 1973 the President signed legislation (Public Law 93–155) that authorized the Department of Defense to use military helicopters and service people to support the Military Assistance to Safety and Traffic Program. The new law permitted the expansion of the program from the five participating Army installations noted in last year's report to twelve posts at the close of fiscal year 1974. Three additional sites were later approved for participation in the program.

On 3 April 1974, a series of tornadoes hit nine states—Alabama, Georgia, Illinois, Indiana, Kentucky, Mississippi, Ohio, South Carolina, and Tennessee—causing severe damage in scattered areas. Army, Navy, and Air Force installation commanders in these states committed people, equipment, and supplies to save lives and lessen human suffering and property damage. During the first twenty-four hours of the disaster, over 275 people and 35 vehicles of the Army were involved in helping disaster victims.

On 5 April 1974, President Nixon declared sections of six of the nine tornado stricken states as major disaster areas. At the same time Fifth U.S. Army selected military officials to represent the Department of Defense in the major disaster states. These representatives worked closely with the federal coordinating officer appointed to each disaster area in providing military aid. At the height of military support the Army provided 843 people, 4 ambulances, 150 vehicles, 4 helicopters, and 12 communications packets.

Work continued during the past year on the National Communications System Plan. Details were completed on a proposal to provide mobile communications teams to support activities of the Federal Disaster Assistance Administration in major disaster areas. U.S. Army Forces Command would furnish the teams upon the request of the Federal Disaster Assistance Agency. Each team would contain twenty portable radios with a base station, equipment for two high-frequency radio nets, and sufficient people for a thirty-day, around-the-clock operation.

The Directorate of Military Support coordinated for the Department of Defense emergency bridging and transportation services at Hilton Head, South Carolina, during the spring of 1974.

While U.S. Navy landing craft provided emergency transportation, U.S. Army engineer units from Fort Belvoir, Fort Benning, and Fort Bragg constructed an 855-foot ponton bridge over the inland waterway to handle vehicular traffic; the bridge was capable of opening and closing to allow the passage of intercoastal waterway traffic. From 3 April to 22 April 1974, 42,794 vehicles used the bridge. The state of South Carolina, which had requested assistance on 28 March, agreed to pay for the incremental costs ($80,324) associated with the project.

Anticipating that industrial pollutants in the public water supplies of Duluth, Minnesota, and other cities along the shores of Lake Superior might require military help in providing potable water, the Directorate of Military Support surveyed capabilities of the Department of Defense to meet such an emergency and estimated the costs involved. Although emergency assistance was not required, the Corps of Engineers, acting under authority of Public Law 93–251, provided clean drinking water, costing by the end of fiscal year 1974 approximately $82,000.

On 21 August 1973, the Department of Justice identified Fort Wingate Depot Activity, an Army Materiel Command ammunition storage facility located near Gallup, New Mexico, as a possible target for demonstrations by dissident Indians and indicated the demonstrators might be armed with "dynamite, grenades, a rifle, and a machine gun." By 12 September about fifty demonstrators were in the Gallup area. On 13 September the Army decided to take precautionary measures. Brigadier General William L. Mundie, assistant commander of the 4th Infantry Division at Fort Carson, Colorado, headed a federal military task force, the major component of which was a military police company, that arrived at Fort Wingate on 20 September. The task force augmented the regular civilian security force and took part in patrolling operations. Overt violence against Fort Wingate, however, did not materialize, and the task force, which reached a peak strength of 220, returned to home stations on 24 September.

In January 1974, the nation's independent truck operators went on strike to call attention to energy-related problems affecting the trucking industry. After seven days, forty-two states were touched by the strike and related violence. The Army was then allowed to move essential military cargo and to loan military transport to the National Guard and civil authorities in cases involving health, food, and welfare. The Directorate of Military Support developed supporting plans with the Military Traffic Management and Terminal Service and established liaison with the Departments of Justice and Transportation.

Military Engineering

In the Army staff reorganization prescribed by General Order 10, 8 May 1974, the Directorate of Military Engineering and Topography (D/ME&T) in the Office of the Chief of Engineers was abolished, and its principal engineering and topographic functions were transferred to other Army staff agencies on 20 May 1974. Development of the engineer elements of Army forces, including the engineer aspects of detailed force structures, doctrine, mobilization planning, training and readiness, materiel needs, engineer tables of organization and equipment, tables of distribution and allowances, combat developments, and the planning and evaluation of the Army Survival Measures Program were transferred from the Directorate of Military Engineering and Topography to the Office of the Deputy Chief of Staff for Operations and Plans. Assistance in preparing policies and concepts for individual training was transferred to the Office of the Deputy Chief of Staff for Personnel, and technical supervision of research and development of engineer materiel required to support the army in the field, including related international standardization activities, was transferred to the Office of the Deputy Chief of Staff for Research, Development, and Acquisition. Primary topographic functions were also transferred to other Army elements, although responsibility for basic research in support of military engineering and topographic activities was retained. The Office of the Chief of Engineers also continued to carry out such topographic functions as support to the Assistant Chief of Staff for Intelligence in executing Army topographic activities, assessment of Defense Mapping Agency responsiveness to Army requirements, and management of military geographic information and hydrographic activities. The Chief of Engineers remained, however, the principal adviser to the Army Chief of Staff in all military engineering matters.

The Army's system of expedient airfield surfacing consists of prefabricated landing mats to provide strength on weak soil, prefabricated membranes to waterproof soil, and dust control materials, all of which are designed to provide Army engineers with a capability to construct airfields, heliports, and roads to support mobile air and ground operations under varying climatic and topographical conditions. Testing was successfully concluded on an extruded aluminum truss-web heavy-duty landing mat, which will support present and projected tactical and cargo aircraft, and on an aluminum honeycomb-core, sandwich-type, medium-duty landing mat to support tactical and cargo aircraft of medium loads. Testing continued on a dust control system of polyvinyl acetate water-

emulsion material along with a sectionalized liquid distributor to emplace the material.

For mine and countermine warfare, a helicopter-delivered fuel air explosive system underwent additional testing. Once the accuracy of the delivery means has been demonstrated, and when doctrine for employment has been developed, the system will be considered for general Army use. The fuel air explosive system is expected to provide an effective means of minefield neutralization in low- to mid-intensity warfare.

The development and operational testing of the Family of Military Engineer Construction Equipment (FAMECE) continued. The tests will determine which prototypes satisfy Army requirements and which development program should be continued. Also, deliveries began on the 25-ton hydraulic crane, and contracts were awarded for the 4½- to 5-cubic-yard scoop loader, the T–11 crawler tractor, the utility tractor with backhoe and loader, and the 40-ton semitrailer. Delivery of the contracted items, scheduled to begin during fiscal year 1975, will improve the capabilities and efficiency of engineer construction units.

International Humanitarian Law

The first session of the Diplomatic Conference on the Law of War met at Geneva, Switzerland, from 20 February to 29 March 1974. Sponsored by the International Committee of the Red Cross, the conference was convened by the Swiss government to consider two draft protocols designed to update the Geneva conventions of 1949. Before the conference, the Army actively participated in the formulation of the U.S. position and the conduct of international negotiations on the two draft protocols. The Army helped in the development of Joint Chiefs of Staff recommendations for the U.S. position and later the coordination between the Departments of Defense and State that produced U.S. position papers on the articles in the two draft protocols.

Controversy surrounding the seating of delegations occupied the first two weeks of the conference and seriously impaired its effectiveness. A motion to seat the Peoples Revolutionary government of South Vietnam was defeated by a margin of one vote. The liberation movement in Portuguese Guinea (Guinea-Bissau), which has been recognized by the United Nations General Assembly as an independent state, was seated as a government. A number of other national liberation movements recognized by intergovernmental regional organizations, for example, the Arab League and the Organization of African Unity, were allowed to participate in the conference as observers without voting privileges.

An article extending the Geneva conventions to all armed conflicts "in which peoples are fighting against colonial domination and alien occupation and against racist regimes in the exercise of their right of self determination" was adopted by Committee I of the conference. There was a strong movement to have the conference as a whole adopt this article, but a compromise was developed that "welcomed" but did not "accept" the action of Committee I. Considerable interest was shown at the conference in introducing a "just war" concept into humanitarian law. This concept would grant protection to victims of conflicts on the basis of the cause for which they fight. It would destroy the fundamental principle of humanitarian law that all victims of conflict are equally entitled to protection and would raise the possibility that those fighting for causes not deemed "just" would be considered criminals rather than lawful combatants.

Following the conference, the Army assisted in evaluating the results and in developing recommendations on the U.S. position at the second session of the conference, which will convene in February 1975. In addition, the Army helped to develop background material for use in a conference of government experts on weapons that are said to cause unnecessary suffering. This meeting is scheduled for late September 1974.

III. Force Development

As combat structure and personnel strength stabilized in fiscal year 1974, the Army continued to mold its diminished assets into a highly motivated, combat-ready force.

Concepts and Doctrine

War games are used to determine the combat units needed to defeat a potential enemy. Then a force structuring exercise is conducted to determine the administrative and logistical units required to support the combat force. Involved is a large volume of data concerning hundreds of types of units and varying support requirements based on the intensity of combat, location and length of supply routes, medical evacuation policy, casualty, disease, and nonbattle injury rates, engineering construction requirements, and supply and maintenance policies. The typical force structuring exercise is so complex and time-consuming that it is often restricted to the establishment and evaluation of but one set of circumstances or one scenario. In recent years the Army has developed new systems and models designed to simplify force structuring and allow the analysis of a number of alternative scenarios for developing the best force structure for the Army.

The U.S. Army Concepts Analysis Agency operates the Automated Force Planning System (FOREWON), which consists of five separate but integrated models. A lift model deploys units to a theater of operations and provides arrival dates. A war game model employs combat units against an assumed enemy as the units arrive in the theater. A logistics or force roundout model determines the units required to support the combat forces. When troops lists are developed for more than one theater, a force aggregation model provides a single force structure that is able to support all of the theaters. Finally, a consolidated force cost model computes the costs of raising current forces to the proposed level and for maintaining that force in peacetime. With this system, force planners can look at a theater over a period of time and not only determine what units are required, but when each is required.

The U.S. Army Management Systems Support Agency maintains a second system, the Modular Force Planning System. This system consists of a logistics or force roundout model that determines the support requirements for a given combat force at a single point in time. The system also provides the capability, through a linear program, to add or delete support units.

During the past year a new force packaging concept, the Heavy/Light Corps package, was developed to provide a force of up to corps size capable of rapid deployment in support of worldwide contingency requirements. The package consists of active Army units, which could be configured with a fixed number of divisions and supported with minimum essential combat support and combat service support units needed to sustain the corps for a specified period of time. The force could be tailored for deployment to any geographical area, but structuring constraints preclude the deployment of more than one corps at a time. The initial troop list for the Heavy/Light Corps package was developed during the first quarter of fiscal year 1974. During the remainder of the year the U.S. Army Training and Doctrine Command tested the validity of the troop list for using selected scenario situations.

The first run of the Army's Total Force Analysis, emanating from the Nixon Doctrine, was completed in February 1974, approved, and partially implemented by the close of the fiscal year. The analysis used the Automated Force Planning System to assess the combat ability of four force structures, each based on different assumptions as to the time available to generate forces and the nature of the enemy threat. Other factors considered in the study were the affiliation of Reserve Component units with active Army units, a pending reduction in Reserve forces by Congress, the organization and number of training divisions, the status of the Individual Ready Reserve, the organization of forces above the division level, the requirement for units in Korea, and manpower constraints at the end of the year. The resulting Total Force troop list was examined to identify units not required in the M-day force structure and to free spaces to support other Total Force requirements. Follow-on analyses will be conducted during each fiscal year in light of new force structure constraints, revised loss rates, and improvements in forces. The Army will use them in developing recommendations to the Secretary of Defense on the Army's total resource requirements.

Meanwhile, the Secretary of Defense directed a study on the National Guard and Reserve that would consider the availability, force mix, limitations, and potential of the Selected Reserve in a national emergency. Elements of the Department of the Army staff, initially under the direction of the Office, Chief of Reserve Components and then under the Office, Deputy Chief of Staff for Operations and Plans, supported the study as full-time participants and as sources of information. The primary objective of the study

task force, the development of recommendations to improve the Total Force posture, should be met by August 1974.

In January 1974 the Army Electronic Warfare Master Plan was published. Developed under the guidance of the Army Electronic Warfare Board, it represented the combined efforts of the U.S. Army Training and Doctrine Command, U.S. Army Forces Command, U.S. Army Communications Command, U.S. Army Security Command, U.S. Army Materiel Command, and the Army staff. The plan was the first to provide guidance in all aspects of electronic warfare training, combat and materiel developments, planning and programming, force and materiel requirements, and Army priorities. In a related development, the Chief of Staff, in December 1973, established as top priority the improvement of Army tactical signal intelligence and electronic warfare capabilities. As a result, the tactical direct support units of the U.S. Army Security Agency were nearly doubled and procurement of tactical signal intelligence and electronic warfare systems increased approximately fourfold in Army programs for fiscal years 1976–1980.

Systems

In the defense budget presented to Congress in March 1973, the fiscal year 1974 Ballistic Missile Defense program called for $402 million to continue Safeguard deployment at the Grand Forks site and $170 million for the Site Defense program. After considerable discussion during authorization and appropriation hearings, Congress appropriated $340 million for Safeguard and $110 million for Site Defense.

As a result of the ABM Treaty and congressional action, American Ballistic Missile Defense (BMD) programs have been limited to research and development and to deploying defensive missiles at one site. Meanwhile, the Soviets have demonstrated their intent to improve their offensive capabilities to the extent permitted under the Strategic Arms Limitation (SAL) agreement. Through development and testing, they have made major technological achievements, increasing their capability to threaten the survivability of U.S. strategic retaliatory forces.

To help offset Soviet advances, the Secretary of Defense, by memorandum of 3 April 1973, and as later changed by an Amended Program Decision Memorandum (APDM), dated 31 August 1973, directed the Army to continue Safeguard deployment at the Grand Forks site essentially as planned, to investigate new or improved system concepts and applicable technology, to preserve options for deploying additional weapons in defense of U.S. retaliatory forces,

and to continue planning for the application of Site Defense technology and components for the National Command Authority (NCA).

The Site Defense program continued to be the only existing development program that could protect the Minuteman force against Soviet weapons systems projected as early as 1979 or 1980. Stressing the importance of the program, the Secretary of Defense called it "a prudent and necessary hedge" in the event that "an acceptable permanent agreement on the limitation of strategic offensive arms cannot be achieved." Although congressional appropriations for the program were reduced, technical progress was made. Program activity during the year turned from design to fabrication, selected components of the Sprint II missile and its radar were completed, and the basic target tracking software was coded and verified. Still, the program schedule had to be extended from sixty-six to seventy-two months and some systems tests and other activities deferred. Also, no funds were available for NCA defense design studies.

Safeguard deployment at the Grand Forks site proceeded on schedule. Construction was essentially completed at both radar sites and at the four Remote Sprint launch sites. The installation of tactical hardware and the testing of components and subsystems neared completion, and system testing proceeded as planned. Three of the six site-level acceptance tests were conducted.

At Kwajalein Missile Range the final phase of system tests to support software development was continued. A total of 52 system tests were completed as of 30 June 1974; of these, 45 were successful, 2 partially successful, and 5 unsuccessful.

A number of significant developments marked the ballistic missile defense advanced technology program during the past year. The Fly Along Infrared sensor vehicle (FAIR II) was test-flown in August 1973. The vehicle and sensor performed as specified. The Army accepted delivery of the first Signature of Fragmented Tank (SOFT) sensor in January 1974, and calibration of the sensor was completed at the Advanced Sensor Evaluation and Test (ASET) facility in February 1974. The Optical Signatures Code was developed and distributed to fourteen military and industrial organizations. A number of specific techniques for optical discrimination against tanks, tank fragments, radar chaff, optical balloons, and replica and background sources were defined and evaluated. A multivariate algorism for discrimination techniques was developed for the Advanced Ballistic Missile Development Agency (ABMDA) Research Center. The Hardened Optical Sensor Testbed (HOST) was fabricated and delivered to the ASET facility. The design of a

hardened Portable Optical Sensor Tester (POST) was completed and fabrication started. Conceptual designs of mosaic sensors were developed and analyzed.

The Homing Interceptor Technology (HIT) vehicle was completely mechanized and underwent a highly successful nonflying operation test. A set of fuze concept formulation studies was completed, and two concepts were selected for development studies. Growth threats to missile silo defense were also analyzed. Based on this analysis, terminal interception systems were established, new concepts in high-performance terminal interceptors developed, and the basis for the evolution of interceptor technology established.

The Technology Applications Panel (TAP) visited a total of thirty industrial and university laboratories during fiscal year 1974. Several hundred concepts were discussed and fifty-six reviewed in detail. Of these, 17 promising new technology opportunities for BMD were identified, 11 of which will be funded in the fiscal year 1975 Advanced BMD program, and the remaining 6 will be studied further. These initiatives range from revolutionary BMD concepts to significant evolutionary improvements in component developments. Multistatic radar technology, consisting of a large number of low-cost transceivers controlled by a central battle management processor, showed a potential application for defense of Minuteman. Studies were also begun on several kill technologies that could revolutionize ballistic missile defense.

Flight testing of the Army Special Target Program was completed, and excellent data obtained on sixteen of the eighteen targets flown. The targets were carried on a series of Minuteman flights, piggyback ICBM tests, and SLBM velocity tests launched by Athena boosters from Wake Island to Kwajalein. Significant information was obtained on performance of ICBM and SLBM velocities, traffic decoy capabilities, and bulk filtering possibilities for terminal defense.

In October 1973, a practical surface acoustic wave signal convolver was demonstrated, and development of an acoustic reflective array compressor was completed. Exoatmospheric designation techniques that employ radar and optical sensors were developed during the year. The analysis and field testing of a passive jammer location technique was completed in November 1973. Also in November, the operation of a 100-watt peak power S-Band trapatt power amplifier was demonstrated. Development of an S-Band low-noise figure and a medium-power output (25-watt) transistor amplifier suitable for solid state radar application was completed in January 1974. The Dome Antenna Phase III model was under construction

with completion and experimental testing scheduled for fiscal year 1975. Also, a low-cost printed circuit antenna element, Spiraphase, was demonstrated and found to be feasible.

Major changes in the management structure of the Army's ballistic missile defense effort took place during the past year. The changes, which succeeded in placing all Army BMD activity under a single program manager, are set forth below.

From	To
Safeguard System Manager (SAFSM)	Ballistic Missile Defense Program Manager (BMDPM)
U.S. Army Safeguard System Office (SAFSO), Arlington, Virginia	Ballistic Missile Defense Program Office (BMDPO), Arlington, Virginia
U.S. Army Safeguard System Command (SAFSCOM), Huntsville, Alabama	Ballistic Missile Defense Systems Command (BMDSCOM), Huntsville, Alabama
U.S. Army Safeguard System Evaluation Agency (SAFSEA)	To be transferred to U.S. Army Training and Doctrine Command (TRADOC), but will continue to perform assigned tasks for the Ballistic Missile Defense Program Manager.
Advanced Ballistic Missile Defense Agency (ABMDA-H), Huntsville, Alabama. Discontinued; personnel and resources transferred to the Ballistic Missile Defense Advanced Technology Center (BMDATC).	Ballistic Missile Defense Advanced Technology Center (BMDATC), Huntsville, Alabama
Advanced Ballistic Missile Defense Agency, Washington, D.C.	Discontinued; personnel and resources transferred to the Ballistic Missile Defense Program Office pending further transfer of specific functions to the Ballistic Missile Defense Advanced Technology Center (BMDATC).

Name changes, the discontinuation of the Advanced Ballistic Missile Defense Agency in Washington, and transfer of control of the Kwajalein Missile Range from the Office of the Chief of Research and Development to the Ballistic Missile Defense Program Manager went into effect on 20 May 1974. The transfer and redesignation of the U.S. Army Safeguard System Evaluation Agency became effective on 1 July 1974. Revised tables of distribution and allowances and internal management realignments to carry out the above changes were to be accomplished during fiscal year 1975. This reorganization will enable the Army to maintain an effective technological program within constrained funding and will consolidate management for all ballistic missile defense programs.

On 4 May 1974, the Secretary of Defense submitted the Defense program and budget for fiscal year 1975. The request included $60.8 million to complete deployment of the Safeguard site at

Grand Forks, North Dakota, for the defense of Minuteman, and $160 million to continue work on the Site Defense prototype demonstration program. The Secretary stated that the Site Defense program would "be conducted on a very austere basis." He added, however, that "Site Defense must be developed with 'system' applications in mind if the demonstration of the development prototype is to be of any real value." To round out the fiscal year 1975 program, $91.4 million was requested for an advanced technology effort to guard against technological surprise, provide a basis for improving existing ballistic missile defense systems, and assist in the design and evaluation of strategic offensive systems.

A special task force met on 8 January 1973 to validate the need for Pershing II, a proposed modular improvement of Pershing Ia designed to provide increased accuracy and substantially reduce collateral damage. The Pershing II Special Task Force, which was the first to be formed under new acquisition guidelines contained in AR 1000–1, presented its findings to the Army Systems Acquisition Review Council (ASARC) on 18 October 1973. Following ASARC approval, the task force on 22 January 1974 briefed the Defense Systems Acquisition Review Council (DSARC). On 7 March 1974, the Department of Defense approved Pershing II for advanced development only and authorized the Army to begin discussions with the Atomic Energy Commission on appropriate nuclear warheads.

In October of 1973 the Army decided to substitute, as assets became available, an armored personnel carrier, M113A1, for the command and reconnaissance carrier, M114A1. The action was taken because of the M114's operational deficiencies and unreliability.

Development on the family of scatterable mines progressed satisfactorily throughout fiscal year 1974. The XM56 helicopter-delivered antitank mine system was approved for procurement on 20 November 1973. Developmental and operational testing of the XM692E1 artillery-delivered antipersonnel mine system, begun in March 1973, continued. Also, the XM718 artillery-delivered antitank mine system remained in the engineer development phase.

The Force Development Management Information System (FDMIS) consists of twenty-three automated systems, models, files, and data bases that support specific functions in the management of Army units and forces. The following are primary systems of the FDMIS. The Force Accounting System provides an indexed listing of all active and Reserve Component units in the current, programmed, and planned Army structure. The Army Authorization Documents System contains the detailed authorizations for per-

sonnel and equipment for each Regular Army, National Guard, and Reserve unit. This system also produces the document which is the unit commander's authority for requisitioning personnel and equipment. The Table of Organization and Equipment System contains model organizational structures for each type of combat and support unit required by the Army and forms the basis for developing documents in the Army Authorization Documents System. The Basis of Issue Plan System determines unit requirements for new items of equipment under development and reflects deletion of replaced items. The Structure and Composition System extracts and combines data from other FDMIS systems to produce personnel and equipment requirement statements for use by personnel and logistic managers in procurement, distribution, and budgeting activities.

During the fiscal year several changes were made in the systems that make up the FDMIS. Accuracy and timeliness, in particular, were improved.

Within the Force Accounting System a subsystem has been developed to trace the effects of decisionmaking on force structure. Another added subsystem verifies budget coding. The system itself has been extended to U.S. Army, Pacific; U.S. Army, Europe; U.S. Army Training and Doctrine Command; and U.S. Army Forces Command. This extension gives these commands the same tool for managing their forces as that of Headquarters, Department of the Army.

Conversion of the Army Authorization Documents System to a multicommand automatic data processing system and its extension to the field commands, which began in June 1973, was 99 percent complete for the active Army and 70 percent complete for the Army Reserve by the end of fiscal year 1974. The Army National Guard completed the training required for conversion to the new system, and extension of the system to the National Guard was scheduled for early fiscal year 1975. The application of this system to the field has increased the responsiveness of Headquarters, Department of the Army, to the needs of the field commands and their troop units.

The Structure and Composition System was used extensively during fiscal year 1974. It produced three logistics computations for delivery to management agencies and two logistics computations to support planning activities. It provided 2 computations for equipment distribution managers, 11 for personnel management agencies, 5 for use in the development of training programs, and 1 for personnel planning. The system was also expanded to include

a subsystem for verifying data in the computation of personnel requirements.

By the middle of fiscal year 1974, it became clear that the Force Accounting System and the Army Authorization Documents System should be combined. Realizing this, the Army reviewed the capabilities of the Force Development Management Information System's component systems and established a study group to recommend ways of making these systems better support the field. At the close of fiscal year 1974 the study group had completed its research.

Training and Schooling

Unit exchanges were carried out in fiscal year 1974 with three allied countries to promote training. The initial unit exchange program with Australia was enlarged, and companies now participate. A platoon-size exchange program with the Canadian armed forces was agreed upon in September 1973. The first of two exchanges (25 April–5 June 1974) involved a platoon of the 82d Airborne Division at Fort Bragg and a platoon of Canada's 1st Combat Group. The second exchange, between platoons of the 4th Infantry Division at Fort Carson and the 1st Combat Group, is planned for the fall of 1974. The Army also exchanged platoons with Norway. A Norwegian Army platoon participated in Alaska's winter exercise program, Ace Card VII, while a platoon from the 172d Infantry Brigade in Alaska took part in operational readiness training in Norway. From 5 to 25 February 1974, one platoon of the 47th Infantry Division, Minnesota Army National Guard, changed places with a Norwegian Home Guard unit from Oslo.

In the United States the Interservice Training Review Program, an effort to lower training costs through the consolidation of service training courses and the sharing of training equipment and facilities, showed substantial gains during the past year. Since its inception in fiscal year 1973, 1,171 courses have been reviewed, 37 of which have been consolidated into 18 interservice courses. The experience gained during this review led to new systems that will satisfy the services' common training requirements. Initially this concept of consolidation and sharing was tried on the construction equipment operator and law enforcement occupational subgroups, and the trial confirmed a potential for improving training at reduced cost. At the close of the fiscal year, task forces were preparing cost-benefit analyses of thirty-three additional occupational subgroups for possible consolidation. Also, the training commands of the services agreed on ways to exchange training literature, audio-visual materials, and training aids.

Army planning for one-station training, which is scheduled for phased implementation over a five-year period beginning in fiscal year 1974, received considerable attention during the past year. Under this new management concept the Army can reduce turbulence during the training of new enlistees and lower costs by conducting all stages of initial entry training for most enlistees at a single installation and by presenting most courses of instruction at only one installation. Initial entry training, skill progression training, professional development courses, and combat and training development activities will be conducted in an integrated environment, with each branch having its own professional home. Installations scheduled to participate in the one-station training plan and the professional home concept are Fort Benning (infantry training), Fort Bliss (air defense artillery training), Fort Gordon (signal training), Fort Jackson (combat support training), Fort Knox (armor training), Fort Leonard Wood (engineer training), Fort McClellan (military police training), and Fort Sill (field artillery training). One or more existing Army training centers, however, will be retained to provide additional training capacity.

While the Army made progress in one-station training, it also relocated and consolidated several service schools. Major changes are noted below.

A reduction in programmed foreign language requirements—4,600 for fiscal year 1975 as compared to 5,600 in fiscal year 1973—led to cancellation of the Defense Language Institute's planned move to Fort Monmouth, New Jersey. Instead, the east coast branch and the headquarters of the Institute will be transferred from the Washington Navy Yard (Anacostia branch) to the Presidio of Monterey, where they will be consolidated with the school's west coast branch and the Systems Development Agency. This move will centralize all foreign language training in a favorable academic atmosphere and will reduce management and staffing overhead.

Plans were approved to relocate the U.S. Army Military Police School from Fort Gordon, Georgia, to Fort McClellan, Alabama. The move, which will begin in early fiscal year 1975, is intended to make full use of the excellent academic facilities at Fort McClellan, the former home of the disestablished U.S. Army Chemical School.

The relocation of the U.S. Army Signal Center and School from Fort Monmouth, New Jersey, to Fort Gordon, Georgia, and its consolidation with the U.S. Southeastern Signal School had been approved in March 1973. Under previous policies, communications-electronics and signal training was conducted at both sites, with instruction in fixed and strategic communications centered at Fort

Monmouth and training in tactical communications centered at Fort Gordon. By consolidating all signal training at Fort Gordon, the Army will reduce the administration and support costs of academic programs and make better use of its field training sites in a year-round climate. Phase I of the consolidation, which involved the transfer of tactical communications courses to Fort Gordon, was completed on 30 June 1974. Phase II, which entails the move of strategic communications and systems training from Fort Monmouth, will begin during the first quarter of fiscal year 1975. During this phase the Army will position extensive equipment at Fort Gordon, including that required for a Tri-Service Automatic Digital Network (AUTODIN) training facility. To that end some AUTODIN items were recovered from Southeast Asia, and others were obtained from Tobyhanna Army Depot and Fort Monmouth. Completion of Phase II is scheduled for the end of fiscal year 1976.

The Judge Advocate General's School, located since 1951 at the University of Virginia School of Law in Charlottesville, trains Army lawyers and oversees military law training Army-wide. During the past year, the school trained 350 lawyers initially entering active service in the Judge Advocate General's Corps. It provided an active program of continuing legal education, including courses in procurement law, military criminal law, personal legal assistance, government litigation, and international law. It added to its curriculum a course in environmental law and another entitled Management for Military Lawyers. To improve the qualifications of legal support people, the school conducted a law office management course for legal administrative technicians and senior legal clerks, presented courses for military lawyers' assistants in both criminal and administrative law, and offered specialized training for legal clerks and court reporters attending the school's noncommissioned officers advanced course.

Army Judge Advocate officers stationed throughout the world attended the annual Judge Advocate General's Conference, which focused on the theme of trial and appellate advocacy, not only in courts-martial but also in the increased litigation affecting the Army in the civilian courts. The Judge Advocate General's School sponsored special training conferences for the staff judge advocates of Army Reserve units, commanders of Judge Advocate General's Service Organization detachments in the Army Reserve, and for senior judge advocates of the Army and Air National Guard. The school also conducted the annual training of the Army Reserve claims investigating teams, claims adjudicating teams, and legal assistance teams of the Judge Advocate General's Service Organiza-

tion. To help Reserve Component judge advocates perform their duties during mobilization and active duty training, faculty members from the Judge Advocate General's School made 186 visits to the home stations of Reserve Component units and conducted more than a thousand hours of instruction for judge advocate personnel.

At year's end, construction of a new University of Virginia building for leasing by the Judge Advocate General's School was well under way. The new facility will provide for practice courtrooms, classrooms, an enlarged military legal research center, and student housing.

In the Army Nurse Corps, training during fiscal year 1974 emphasized Nurse Clinician programs. These programs were designed to prepare nurses to assume broader responsibilities in health assessment, treatment, patient teaching, illness prevention, and health care maintenance and thereby to improve health care to the military community. Nurse Clinician programs currently include psychiatric mental health, ambulatory care, obstetrics and gynecology, pediatrics, intensive care nursing, community health and anesthesiology nursing, and a new program in nurse midwifery.

IV. Organization

For the second consecutive year the organization of the Army, and particularly its headquarters structure, underwent major changes. New reductions and realignments were made to reduce overhead, bolster Army combat strength, and, more specifically, increase the number of combat divisions to sixteen.

Army Management Headquarters Activities, which comprise Headquarters, Department of the Army, major command headquarters, subordinate major commands, and their staff support activities, began fiscal year 1974 with a strength of 33,614 military and civilian spaces. Projected strength at the end of fiscal year 1974 was 28,720 and by the end of fiscal year 1975, 21,803. An overall reduction of 11,811 spaces will be achieved over a two-year period, of which 7,058 represent jobs eliminated and 4,753 a transfer of functions.

The Department of the Army Staff

During fiscal year 1973 the requirements and management practices of the Army General Staff and its staff support activities had been evaluated as part of the Army's 1973 reorganization within continental United States. The manpower savings resulting from this review were primarily across-the-board reductions within the framework of the existing organization and did not alleviate the problem of layering on the Army staff. Recognizing this deficiency, the Chief of Staff in November 1973 directed a reorganization of the Army staff that would (1) establish clear responsibility in the five key functions requiring departmental management, that is, people, dollars, plans, materiel acquisition, and logistics; (2) remove operational tasks from the Army staff so that the staff could concentrate on establishing Army policy; (3) improve direction and control; (4) eliminate fragmentation of functional responsibilities; (5) remove layering through broader spheres of control; (6) make better use of the management abilities of the U.S. Army Materiel Command, the U.S. Army Forces Command, and the U.S. Army Training and Doctrine Command; and (7) achieve manpower and dollar savings for transfer to combat forces.

The result of the Chief of Staff's directive, the first major reorganization of the Army staff since 1962, was announced by the Secretary of the Army on 4 March 1974 and became effective on

20 May 1974. The positions of the Assistant Vice Chief of Staff and the Secretary of the General Staff were eliminated, as were the Offices of the Chief of Research and Development, Chief of Reserve Components, Assistant Chief of Staff for Force Development, Assistant Chief of Staff for Communications-Electronics, and The Provost Marshal General. One new agency was created, the Office of the Chief of Research, Development, and Acquisition.[1]

Within the Office of the Chief of Staff, Army (OCSA), the functions of Secretary of the General Staff and Assistant Vice Chief of Staff were combined in a new position, the Director of the Army Staff (DAS). The director, a lieutenant general, develops guidance for the Army staff, integrates its activities, and supervises the OCSA Directorates of Management, Management Information Systems, and Program Analysis and Evaluation. Although the Management Directorate is new, its functions—high-level, long-range, and internal review of the Army Management headquarters and the support establishment—have been performed within the Office of the Chief of Staff for five years. This directorate also became responsible for Army staff management and the Army Study Program. As an additional change, the Operational Test and Evaluation Agency (OTEA) was assigned directly to Office of the Chief of Staff for general staff supervision.

The 20 May 1974 reorganization improved the coordination of manpower authorizations and personnel assignments. In the revised military manpower management system, the Deputy Chief of Staff for Operations and Plans (DCSOPS) allocates manpower spaces to commands and units, and the Deputy Chief of Staff for Personnel (DCSPER) is responsible for the qualitative aspects of manpower management, including personnel utilization policies, the manpower survey program, development and approval of staffing guides, position delineation (military and civilian, officer and enlisted, male and female), and the approval of all authorizations for grade, branch, and occupational specialties. DCSPER also validates the timing and phasing of unit actions to reduce personnel turbulence and has taken over the functions of law and order (from The Provost Marshal General) and human factors research (from the Chief of Research and Development).

As a result of the earlier 1973 reorganization of the Army within the continental United States, combat developments and doctrine functions were assigned to the U.S. Army Training and Doctrine Command and more closely allied with the Army's school system, the Concepts Analysis Agency was established and made responsive

[1] Legislation is pending to provide a fourth deputy chief of staff to head this agency.

to the Army staff for detailed analytical work in force development, and the Operational Test and Evaluation Agency became the manager of operational testing of materiel. To improve upon these earlier organizational changes that affected the force development process, the Office of the Deputy Chief of Staff for Military Operations was given many of the responsibilities of the disestablished Office of the Assistant Chief of Staff for Force Development and renamed the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS). This consolidation more closely integrated the Army system of plans with the function of force development. The control of materiel requirements, which had been fragmented throughout the staff, was centralized in a Directorate of Requirements in ODCSOPS. Army staff responsibility for plans and operations of telecommunications and electronics, previously handled by the Assistant Chief of Staff for Communications-Electronics, was combined with the command and control function and assigned to a directorate in ODCSOPS. Additionally, on 18 June 1973, the Chief of Staff made ODCSOPS responsible for monitoring the selection, assignment, and training of Army personnel for key positions in security assistance. The International Staff Affairs Office was established in ODCSOPS to do the monitoring.

The newly organized Office of the Chief of Research, Development, and Acquisition (OCRDA) is responsible for Army systems acquisition policy and the life-cycle management of materiel until it enters the Army inventory. OCRDA took over the function of materiel acquisition previously exercised by the Office of the Deputy Chief of Staff for Logistics. Staff directorates within the new agency are organized along systems lines, with six divisions created to parallel the Army Materiel Command's appropriation categories and major management groupings (munitions; aviation; missiles and air defense; weapons and combat vehicles; command, control, and surveillance; and support systems).

The reorganization of 20 May 1974 expanded the responsibilities of The Inspector General, whose new title became The Inspector General and Auditor General, into the fields of audit, internal review, and manpower survey. More timely assessment of the Army's condition and improved coordination of inspection, audit, and manpower survey should result. Also assigned to The Inspector General and Auditor General for close scrutiny were the Army Safety Program and the supervision and control of the U.S. Army Agency for Aviation Safety.

The Inspector General and Auditor General remained the commander of the United States Army Inspector General Agency, which had been formed on 1 December 1973, following an increase

in personnel from 100 to 148. Excluding audits, internal review policy, and safety, the operational functions of conducting investigations, resolving Inspector General action requests; performing general, technical proficiency, and functional inspections; and providing worldwide surveillance over the Inspector General system remained with The Inspector General Agency. Approximately 2,400 action requests were received and processed. Special inspections were completed on pay complaints, family housing, movement of personal property, proliferation of Army regulations, and overseas outpatient care, and visits were conducted to determine the effectiveness of command in selected battalion-size units.

Remaining Army staff agencies were reduced in size and complexity but incurred less dramatic changes in their functions. The Office of the Deputy Chief of Staff for Logistics (ODCSLOG) will now focus on the classic logistics functions of supply, maintenance, and transportation and on international logistics. The Office of the Comptroller of the Army (OCOA) has been reorganized to concentrate primarily on financial management. The Comptroller has received added responsibilities and resources for independent cost estimation and program directorship for both the base operations and headquarters and administration programs. A separate directorate was created for management of the Operation and Maintenance, Army, appropriation. Changes in the Office of the Assistant Chief of Staff for Intelligence (OACSI) primarily involved the transfer of operational functions to field agencies. Staff responsibility for management of the Reserve Components remained with the Chief, National Guard Bureau, and Chief, Army Reserve. Functions formerly assigned to the Chief, Office of Reserve Components, were distributed to other Army staff agencies and integrated with like functions pertaining to the active Army.

A number of procedural changes were prompted by the 20 May 1974 reorganization. Internal paper work has been reduced. Authority has been delegated at the lowest practical level within the staff, and more reliance has been placed on the action officer to manage an action to completion. Informal coordination has speeded up the decisionmaking process.

Together with these changes, the major reorganization in fiscal year 1974 has improved the Army staff's ability to manage the army in the field and to coordinate activities with higher authority.

Command Reductions and Realignments

As a result of the Army reorganization in continental United States during fiscal year 1973, three new major Army command

headquarters were established on 1 July 1973. These were the U.S. Army Forces Command (FORSCOM) located at Fort McPherson, Georgia; the U.S. Army Training and Doctrine Command (TRADOC) at Fort Monroe, Virginia; and the U.S. Army Health Services Command (HSC) at Fort Sam Houston, Texas.

The 1973 reorganization also disestablished Headquarters, U.S. Army Combat Developments Command, at Fort Belvoir, Virginia, and Headquarters, U.S. Third Army, at Fort McPherson, Georgia, on 1 July 1973, and Headquarters, U.S. Continental Army Command, at Fort Monroe, Virginia, on 31 December 1973. The size and junctions of the three remaining CONUS Army headquarters were reduced, and their attention focused on providing support to the Reserve Components. On 1 July 1973, the Army Health Services Command took over jurisdiction of all Army Medical Department activities and Army Medical laboratories from Continental Army Command. The Health Services Command also assumed control of the Medical Department Activity, United States Military Academy, West Point, New York, previously the responsibility of the Office of the Deputy Chief of Staff for Personnel, Department of the Army.

On 5 October 1973, the Secretary of Defense ordered a study of the manpower requirements of DOD management headquarters to determine the effect of 10 percent, 20 percent, and 30 percent reductions. As a result of this review, the Army will discontinue seven major and subordinate Army command headquarters by the end of fiscal year 1975. Headquarters, U.S. Army Intelligence Command, at Fort Meade, Maryland, was discontinued on 30 June 1974, and on 4 January 1975, the U.S. Army Air Defense Command located at Ent Air Force Base in Colorado will also be disestablished. Headquarters, U.S. Army, Alaska, located at Fort Richardson, Alaska; Headquarters, U.S. Army Forces Southern Command, at Fort Amador, Panama Canal Zone; and Headquarters, U.S. Army, Pacific, at Fort Shafter, Hawaii, will be discontinued on 31 December 1974. The mission and functions of these headquarters, however, will be absorbed by commands based in continental United States. In addition, a new command relationship is being developed for the Western Pacific area. In Europe two subordinate commands of Headquarters, U.S. Army, Europe—Headquarters, Theater Army Support Command, Europe (TASCOM), in Worms, Germany, and U.S. Army Engineer Command, Europe, in Frankfurt, Germany—will be discontinued on 30 September 1974.

With the worldwide scaling down of Army activities, the Army Materiel Command, the Army's major command for handling com-

modities, reduced its depot activity. Sixteen major realignments, completed between April 1973 and the end of fiscal year 1974, are indicated below.

Activity	Type of Action	Completion
Electronics Command (ECOM)	Consolidation of ECOM, Philadelphia, with ECOM, Ft. Monmouth, at Ft. Monmouth, N.J.	4th Qtr, FY 74
Armament Command (ARMCOM)	Merger of MUCOM HQ, including APSA, with WECOM HQ at Rock Island, Ill. Absorption of the Small Arms System Agency and the Operation Research Group (Edgewood Arsenal).	1st Qtr, FY 74
Troop Support Command (TROSCOM)	Two phases. Phase I—MECOM redesignated as TROSCOM. Assumption of command of Natick Laboratories and ACMAS. Realignment of RDE functions and transfer of items to other sub-MACOMS. Phase II—fiscal year 1975 action.	2d Qtr, FY 74
Richmond Support Center	Disestablishment. Closure of commissary. Transfer of AVSCOM mission and support personnel to New Cumberland Army Depot.	4th Qtr, FY 73
Maintenance Management Center	Establishment of agency at Lexington by integrating the Army Maintenance Board, the AMC Maintenance Support Center, the AMC Logistic Data Center, the AMC Test, Measurement, and Diagnostic Equipment Technical Coordinating Office, and the Tools and Maintenance Equipment Committee.	4th Qtr, FY 73
Jefferson Proving Ground	Transfer of Ammunition Acceptance Testing from Aberdeen Proving Ground.	4th Qtr, FY 74
Atlanta Army Depot	Discontinuance of depot operations.	4th Qtr, FY 74
Pueblo Army Depot	Reduction in force.	4th Qtr, FY 74
Seneca Army Depot	Reduction in force.	4th Qtr, FY 74
Sierra Army Depot	Reduction in force.	4th Qtr, FY 74
Savanna Army Depot	Reduction in force.	4th Qtr, FY 74
Umatilla Army Depot	Redesignation from depot to depot activity under Tooele Army Depot.	4th Qtr, FY 74
Land Warfare Laboratory	Disestablishment.	4th Qtr, FY 74
Advanced Materiel Concepts Agency	Disestablishment.	4th Qtr, FY 74
Logistics Control Office, Atlantic (LCO-A), and Logistics Control Office, Pacific (LCO-P)	Consolidation into the Logistics Control Office located at the Presidio of San Francisco, Calif.	2d Qtr, FY 74
Chemical and Coating Laboratory	Reduction of personnel and movement from Aberdeen Proving Ground, Md., to Ft. Belvoir, Va.	4th Qtr, FY 74

Field Organization

Testing of the TRICAP (triple capability) division, which last year's summary described in some detail, was completed during fiscal year 1974. Following evaluation by the Combat Developments Command, the 1st Cavalry Division—the test division—was initially reorganized into two armor brigades and an air cavalry combat brigade. Later, in March 1974, the Department of the Army announced that the force structure for fiscal years 1975 to 1980 would be revised. The 1st Cavalry Division would be reorganized as an armored division, and a separate air cavalry combat brigade would be formed. Tentatively scheduled to be fielded during the latter half of fiscal year 1975, the separate air cavalry combat brigade is seen as a quick-reaction force, highly mobile, primarily equipped with antiarmor helicopters. This brigade will enable the Army to continue to test and develop doctrine for employing air cavalry forces.

In August 1973 the Army began a pilot program in which selected Reserve Component units were to be equipped and trained to deploy as parts of active Army divisions. This affiliation program is funded, in contrast to existing relationships between the Reserve Components and active forces, and is intended to provide additional combat forces in Europe. Currently, twenty-one Reserve Component maneuver battalions and five field artillery battalions are affiliated with active Army divisions in continental United States and Hawaii. During 1974 the participating divisions and the Army schools will plan, support, and evaluate the annual field training for thirteen of the twenty-six battalions. The remaining thirteen battalions will conduct their summer training as usual but will be monitored by the divisions with which they are affiliated. A decision on how many additional Reserve Component units will be affiliated will be made early in calendar year 1975. In conjunction with the pilot program, the Army conducted an analysis to determine how many maneuver and support units could be controlled by a division in sustained combat.

V. Intelligence and Communications

Intelligence

Reduction in Army management headquarters affected Army intelligence activities worldwide. The Office of the Assistant Chief of Staff for Intelligence (OACSI) lost 42 spaces in the 20 May 1974 reorganization, 12 by elimination and 30 by transfer to field operating activities. The U.S. Army Intelligence Command (USAINTC) was discontinued 30 June 1974, and the U.S. Army Intelligence Agency (USAINTA), a field operating agency of OACSI, was established by consolidating CONUS military intelligence units. The headquarters of the new agency has less than half the personnel of the former command's headquarters—86 as compared to 174.

Additional personnel savings were achieved by merging the four major subordinate commands of the Army Intelligence Command, the 902d, 109th, 112th, and 115th Military Intelligence Groups, into two groups, the 902d and the 525th. The 902d Military Intelligence Group, with headquarters at Fort Meade, Maryland, received responsibility for counterintelligence activities in states east of the Mississippi River and in Puerto Rico and the Canal Zone. The 525th Military Intelligence Group, with headquarters at the Presidio of San Francisco, took over counterintelligence activities west of the Mississippi River and in Alaska and Hawaii.

The Army reorganized its military intelligence activities in other ways. The Intelligence Records Repository and the Army Personnel Security Group were joined to form the U.S. Army Counterintelligence Support Detachment, an activity of USAINTA. Operational elements of the old 902d Military Intelligence Group, including technical services and counterintelligence operations, were combined as the U.S. Army Counterintelligence Special Operations Detachment, another USAINTA unit. The Imagery Interpretation Center and the Special Research Detachment, production activities formerly assigned to USAINTC, came under the operational control of the Director of Foreign Intelligence, OACSI. The Counterintelligence Analysis Detachment, formerly an Army staff support agency, was redesignated a field operating activity and assigned to USAINTA. The Director of Intelligence Operations, OACSI, continued to exercise operational control of the activity.

In the fiscal year 1974 Defense Appropriation Bill, Congress directed that U.S. Army Reserve Wartime Information Security Program units be phased out. The Department of the Army there-

fore inactivated on 30 June 1974 the U.S. Army Element, Special Analysis Division, and the U.S. Army Element, National Postal and Travelers Censorship Organization, deleting in the process 189 Army Reserve spaces.

In March 1973 the Army started a project called Army Systems for Standard Intelligence Support Terminals (ASSIST). The objective was to modernize and standardize automatic data processing hardware and software used in intelligence work. In August 1973 the Secretary of Defense approved the project, and by September the Army had analyzed the requirements for the ASSIST test-bed system. Five AN/GYQ–21 (V) mini-computers were committed to the project in January 1974. In June 1974 specifications for the automatic data processing systems and subsystems were completed, and the first Project ASSIST mini-computer was installed at the Pentagon. Meanwhile, existing hardware and software were converted to the new system, standardization was begun, and computer applications were developed. When completed, Project ASSIST will provide for standardized intelligence files and for the exchange of information among Army and national intelligence centers.

A Department of Defense *ad hoc* committee established in September 1973 completed work on a draft directive for standardization in the field of technical surveillance countermeasures (TSCM). The directive, expected to be published in early fiscal year 1975, will establish policies and procedures, common to all services, for requesting, conducting, and reporting TSCM surveys, for selecting and training TSCM personnel, and for coordinating the development, testing, and procurement of TSCM equipment. The goal is to set up a centrally managed program for technical surveillance countermeasures.

On 26 September 1973, the Department of Defense formed the Personnel Security Working Group to evaluate the feasibility of centralizing responsibility for determining security eligibility and issuing security clearances for military service and civilian employment. In the quest for centralization, the group was also to consider the scope of investigations, organization, processing procedures, and maintenance of records. The group expects to present its findings by mid-September 1974.

To decrease classified holdings, the Army during the past year reduced the number of original classification authorities by more than one-third. The following statistics reflect the results of this program, which should ease the problem of overclassification and decrease requirements for review, declassification, and archival storage.

Authorities, June 1973		Authorities, June 1974	
Top Secret	58	Top Secret	53
Secret	1,050	Secret	704
Confidential	2,266	Confidential	1,278
Total	3,374	Total	2,035

On 11 June 1974, Army Intelligence people completed a review of approximately 5.5 million personnel security dossiers held at the United States Army Investigative Records Repository, Fort Holabird, Maryland. Approximately 3.2 million (58 percent) were earmarked for eventual destruction. However, a fire at the Military Personnel Records Center, St. Louis, Missouri, which destroyed approximately 90 percent of the individual personnel records of former Army members who were discharged between 1 November 1912 and 31 December 1959, caused a change in plans. The Archivist of the United States invoked a moratorium on the destruction of intelligence files. During the moratorium, the records at Fort Holabird will be used to reconstitute some of the records destroyed in the St. Louis fire.

Concurrent with the review of dossiers at Fort Holabird, the computer holdings of the Defense Central Index of Investigations of the Defense Investigative Service were posted to correspond with the Army's active holdings.

The Army continued work on its portion of the records declassification program. At the beginning of the year the National Archives held, in addition to microfilm, approximately 6,500 feet of Army World War II records that had not been reviewed for declassification, of which some 3,400 feet were intelligence files. Mobilization designees and other Military Intelligence Reserve officers performing their annual training at the National Archives completed a page-by-page review of over 2,100 feet of these intelligence records and declassified 98 percent of them. The remainder contained information on classified intelligence sources or sensitive intelligence methods. The Adjutant General's declassification specialists, also assisted by Reserve officers on annual training, completed the review of the other World War II records. Some 3,000 linear feet of records were declassified, mostly through a page-by-page review; however, about thirty documents had to remain classified. The review and declassification of World War II microfilm was also done by Reserve officers. Starting in March 1974, the Reservists met two Saturdays each month and reviewed and declassified over 150 rolls of microfilm containing approximately 300,000 images.

With the declassification of World War II records in the holdings of the National Archives virtually completed, except for intelligence records, The Adjutant General's declassification specialists

began to review thirty-year-old documents in the custody of the Department of the Army. To locate these documents, the Army directed that all depositories, libraries, museums, and offices report the extent of thirty-year-old records in their custody.

Later records were also reviewed in fiscal year 1974. For the 1945–54 period, records occupying about 15,000 feet of the 51,000 feet on hand in depositories of the General Services Administration were declassified.

In executing the Freedom of Information Act, 5 United States Code 552, which expanded public access to federal government records, the Army devoted considerable effort to meet the needs of the public, the communications media, and congressional oversight groups. In addition seminars and training conferences were held to insure that Army people understood their obligations under the act.

Work was completed on a new Army regulation, to be published in early fiscal year 1975, which revises the restrictions on acquiring and storing information concerning persons and organizations not affiliated with the Department of Defense. The new regulation prohibits without exception the gathering of information about a person or organization solely because of lawful opposition to government policy and also bans physical and electronic surveillance of federal, state, and local officials. Unless approved by the Department of Defense, investigations and surveillance for other reasons are generally restricted, except for cases involving Army people and property.

Communications

Money allocated to the Army's Consolidated Telecommunications Program for fiscal year 1974 totaled $782.2 million and was broken down as follows:

CONSOLIDATED TELECOMMUNICATIONS PROGRAM

Fiscal Year 1974 Appropriation	Amount (in millions of dollars)
Research, development, testing, and evaluation	$ 61.3
Procurement	139.2
Military construction	3.1
Operation and maintenance	275.2
Military pay	303.4
Total	$782.2

The $51.8 million increase over fiscal year 1973 primarily reflects additional procurement ($33.4 million) for tactical communications in support of improved Army readiness and additional operational and maintenance outlays ($14.8 million) for civilian pay raises, inflation, and increased responsibilities resulting from recent reorganizations.

The Army completed eight studies of areas within the United States where telecommunications centers of the services might be consolidated. Four of the studies, involving the areas around Atlanta, Georgia, Baltimore, Maryland, Fort Lee, Virginia, and Monterey California, were approved by the Joint Chiefs of Staff. The approved consolidation will save eighty-four personnel spaces and $690,000 in yearly operations and maintenance costs. Army plans for the consolidation of telecommunications centers in the Pentagon were also approved, with anticipated savings of 115 spaces and $2 million per year in operations and maintenance outlays.

The electromagnetic spectrum is vital to the nation's well-being but is subject to considerable misuse because of its easy accessibility. The Army took several actions during the past year to promote more effective and responsible use of this natural resource. These included publication of the Army Spectrum Management Master Plan in March 1974, the assignment of responsibilities under the Department of Defense Electromagnetic Compatibility Program, and preparation of a manual that will describe effective means for achieving electromagnetic compatibility.

In July 1973 the Army began the Integrated Tactical Communications Systems study to develop a new tactical communications plan. Concerned with the midrange period (1976–86) and scheduled for completion in fiscal year 1976, the study will take into account doctrine, new and emerging weapons systems, and the effects of rapidly advancing technology.

Meanwhile, the Army has in the engineering development phase a project to improve tactical communications by providing digital data transmission. This improvement will enable the army in the field to transmit high-speed data and wideband voice traffic over existing multichannel communications equipment.

Distribution of pulse code modulation, multichannel transmission equipment to the Reserve Components, which began in fiscal year 1973, continued. The equipment was medium capacity (24-channel) and second generation. Distribution of high-capacity, multichannel trunking was made to U.S. Army, Europe, and large analogue tactical automatic circuit switches, procured in 1970, are scheduled for distribution early in fiscal year 1975.

The Single Channel Tactical Radio Communications Working Group was established on 23 July 1973. Composed of Army staff members and representatives from major Army commands, the working group set about to do what its title implied, that is, to develop a single channel tactical radio communications program together with an appropriate management structure. The working

group was also to recommend priorities for equipment developments for the 1980–90 time frame. Completing its report in January 1974, the working group recommended three basic subsystems to meet future tactical communications requirements—a single channel ground and airborne subsystem, a single channel satellite subsystem, and a single channel mobile access subsystem. Time to field the subsystems is expected to take twenty years, and cost is estimated to be $1 billion. On 21 February 1974, the Chief of Staff approved the working group's report.

The Army's primary responsibility in the Joint Tactical Communications (TRI-TAC) Program is to develop the AN/TTC–39 switch. In December 1973, the Army completed a prototype of the circuit and message switch and the following April awarded a contract for sixteen engineering development models. In other TRI-TAC actions during the year, a study contract on the tactical digital facsimile was completed and a contract for validation models was awarded, the Army joint operational requirement for the digital group multiplexer was approved, and joint operational requirements for the tactical digital tropospheric scatter equipment project were prepared. Also, the Joint Chiefs of Staff approved the joint operational requirement for the shortwave band radio.

In another joint program, Tactical Satellite Communications, the Department of Defense on 31 January 1974 approved an Army plan for acquiring several tactical satellite communications items—multichannel terminals for use in command and control links from theater army to brigade, single channel terminals to replace selected single channel radio communications nets, and satellite control terminals. Prototypes for the multichannel terminals are being built by RCA (Radio Corporation of America), with delivery of the first terminal anticipated in November 1974. The contract for the control terminal was awarded in December 1973. Contracting for single channel terminal prototypes, scheduled for October 1973, was delayed for several months to incorporate technology gained by the Air Force in its segment of the program. Later, in June 1974, the Army awarded a contract for a manpack terminal. Contracting for a vehicular terminal is scheduled for January 1975.

In nontactical communications, the Army Telecommunications Automation Program (ATCAP) got under way with the approval on 9 October 1973 to install automated multimedia exchange systems at 27 Army telecommunications centers, 23 at home and 4 overseas. Thus far five locations, which will be under the direction of the U.S. Army Communications Command, have been selected: Huntsville, Alabama; Fort Huachuca, Arizona; Oakland, Cali-

fornia; Letterkenny Army Depot, Chambersburg, Pennsylvania: and Headquarters, Military Traffic Management and Terminal Service, Newport News, Virginia. Sperry Rand's UNIVAC Division will supply the systems, which the Army will have the option to purchase after twelve months of leased operation. The system at Oakland, though completed, remains to be tested and accepted; equipment for the Huntsville site should be installed early in fiscal year 1975.

After an earlier failure, two Phase II satellites were launched on 13 December 1973 in support of the Defense Satellite Communications System (DSCS). Orbiting over the Atlantic and western Pacific oceans, these satellites provide relay communications for thirty-four ground terminals. At Fort Detrick, Maryland, the AN/MSC–60 satellite ground terminal became operational in March 1974, and in April 1974 a contract was awarded to Philco-Ford for nineteen additional AN/MSC–60 terminals for the DSCS program for 1974–80 and for other Defense requirements. Deliveries of the terminals are scheduled to start in November 1975 and to be completed by July 1977. Meanwhile, the modification of twenty-nine DSCS Phase I ground terminals continued. Intended to increase the reliability and capacity of the terminals to meet Phase II criteria, these modifications are expected to be completed in September 1974.

In other developments in nontactical communications, the Army, with responsibility for engineering and for procuring and installing equipment, continued improvements to the cable and radio direct communications link between Washington and Moscow. The new, improved system is scheduled to become operational on 1 October 1974. Also scheduled for completion during the coming fiscal year is Scope Picture, a project that will expand American Forces Network television coverage to U.S. families stationed in Germany. Management responsibility for this project was transferred from the Army Communications Systems Agency to the U.S. Army Communications Command, Europe. Fort Bliss, Texas, was selected to test the Wired Garrison concept, which provides for expanded use of cable television systems at Army posts and which is expected to reduce the need for multiple cables, meet the needs for improved command operations, and give post residents broader educational opportunities and better health care.

Work continued on the Technical Control Improvement Program, a two-phased effort to standardize and automate technical control facilities throughout the military services, and on the European Wideband Communications System, a project to improve transmission facilities.

The Joint Communications Support Element (JCSE), located at MacDill Air Force Base, Florida, was established by the Joint Chiefs of Staff in 1972. Staffed by Army and Air Force personnel, with a strength of 363, the JCSE provides communications support to unified commands for contingency operations, natural disasters, and exercises. In February and March 1974, the Joint Chiefs of Staff approved the modernization of JCSE-controlled Joint Airborne Communications Centers and Command Posts. For these facilities switches, radios, satellite-terminals, and communications transmission systems will be improved with new equipment at a cost of approximately $7.4 million, to be shared by the Army and the Air Force.

Army efforts to improve communications security have been under way for several years. In early 1973, a battalion of the 1st Cavalry Division successfully tested a system for changing call signs and frequencies. In mid-1973, large-scale testing of the system, which is now known as the Communications-Electronics Operation Instruction (CEOI), began. First the 101st Airborne Division started to make daily changes; later the 82d Airborne Division adopted the same system. At present the CEOI is limited to single channel net radios. Call signs have a letter-number-letter configuration that is not predictable. Although changes are usually made every 24 hours, the period may be shortened or extended. A centralized production facility prepares the CEOI material, and bulk deliveries are made directly to users through special channels. The system, which will replace the Signal Operations Instruction Generation Procedure, was approved on 24 April 1974, and Army tactical units are adopting it as rapidly as the centralized production facility can compile and distribute the necessary materials.

During fiscal year 1974, a number of communications technical standards were developed under the Defense Standardization Program (DSP). Included were Military Standards 188–141 and 188–144, which apply to high-frequency radio links and tropospheric scatter radio links for use in tactical and long-haul communications. Standards were also approved and distributed for teletype equipment terminals and for the design of punch cards and magnetic tapes. Communications standards are currently under development for common and separate tactical and long-haul communications areas.

The Department of Defense tentatively established that digital transmission systems will be designed to use continuously variable slop delta (CVSD) analog to digital conversion techniques, that channel transmission rates will be 16/32 KB/S, and that radio channel spacing will be 25 KHZ. Tests have confirmed that suitable

signal levels can be provided with CVSD at 32 KB/S where several tandem analog/digital, digital/analog conversions are required. The task of developing standard message formats and data link control procedures for digital transmission systems has been turned over to a Joint Federal Task Group.

Standards for audio-visual presentation media and equipment were published this past year. These guidelines will insure that audio-visual presentation materials are compatible with associated equipment and will permit exchange of audio-visual media among and within commands.

Because of the complexity of modern communications systems, the Army needs well-educated Signal officers. To help fill this need, the Army arranged for officers who hold bachelor degrees in other than engineering and science to work toward a master of science degree in telecommunications management at the University of Colorado, the George Washington University, and the New York Institute of Technology. Approximately a hundred Signal Officers have received masters degrees under this two-year-old program. The Army has also increased its requirements for Signal officers with advanced degrees. During fiscal year 1974, the Army Educational Requirements Board validated one Signal Corps position at the doctorate level and 461 positions at the master's level, an increase over previous years. The following is a recapitulation of the Signal Corps officer educational level as of November 1973.

Doctor's degree	28
Master's degree	962
Postgraduate work, but no master's degree	109
Baccalaureate	3,850
Two years or more at college level	594
Less than two years at college level	263
High school graduate	268
Others	178
Total	6,252

Another educational measure was the establishment of a new officer military occupational specialty, the Audio-Visual Instructional Technology Officer, who plans courses of instruction that use visual media. Officers with this skill will serve primarily at service schools in instructional technology divisions and at installations in training aids services offices, organizations that evolved from the 1973 Army reorganization at TRADOC and FORSCOM installations. Instructional technology divisions are responsible for developing audio-visual technology and systems engineering techniques to support education and training. Training aids services offices support Army installations with audio-visual systems and training aids.

VI. Personnel

At the beginning of fiscal year 1974, skeptics were saying that the volunteer Army would not work, that it was only a matter of time before the draft would be reinstituted. Recruiting during the first four months of the year tended to support this pessimism, for the Army fell some 12,200 short of its objective. Conditions within the U.S. Army Recruiting Command (USAREC) were partially to blame. Recruiting duty had not been popular, and unqualified recruiters had to be removed. A shortage of approximately 1,000 recruiters resulted. By offering incentives to volunteers, USAREC added capable recruiters and nearly reached full strength by the end of November 1973. Concurrently, it reversed the trend in recruiting and succeeded in meeting Army manpower requirements. On 30 June 1974 the Army stood at 782,897 members (excludes 433 reimbursable active duty personnel paid from Civil Functions, Reserve, and National Guard appropriations), which was 1,297 over the authorized figure of 781,600. The volunteer Army was working.

Enlisted Personnel

The Army recruited 199,196 men and women in fiscal year 1974. With 166,798 men enlisting for the first time, recruitment exceeded that of 1973 by approximately 25 percent. A total of 32,901 new enlistees chose to serve in the combat arms, one of the most difficult recruiting areas. Of these, 39.1 percent signed up for the $2,500 combat arms bonus offered to high school graduates in the upper mental categories (Categories I, II, or III) as an incentive to enlist for four years. Female enlistments numbered 15,446, or 110 percent of the recruiting objective, and surpassed figures of the previous year by 77 percent. Reenlistments came to 16,952, about 127 percent of the Army's recruiting objective and 18 percent more than in fiscal year 1973.

The Army attained these results within quality guidelines established by the Department of Defense Appropriations Act for Fiscal Year 1974. This legislation required that no less than 55 percent of new enlistees be high school graduates (the Army achieved 56.1 percent) and that at least 82 percent of all enlistees be in the upper three mental categories (the Army achieved 82.2 percent).

The 1974 Appropriations Act also called for a reduction of 787 Army positions (410 military and 377 civilian) in Armed Forces

Examining Stations. Six stations were therefore closed—those in Abilene, Texas; Anchorage, Alaska; Ashland, Kentucky; Fairmont, West Virginia; New York City (Varick Street station); and Providence Rhode Island.

Several changes were made in recruiting procedures. Enlistment options were reduced from 40 to 27, but new programs were added. A two-year Training or Travel Option provides enlistees training in a skill of their choice or initial assignment to Europe. A Training and Cash Enlistment Option also offers a choice of training as well as a bonus of up to $2,500. A program to attract students at junior and community colleges has been started.

Recruiting advertising was funded at $38.2 million for fiscal year 1974, a substantial increase over the previous year, and the new Training or Travel Option was highlighted. A paid radio and television advertising program, however, was canceled because of congressional objections.

In addition to exceeding its recruiting goals, the Army also retained many qualified soldiers. A total of 60,673 men and women, 116 percent of the Army's objective, reenlisted during the year. Of these, 23,065 were on their first enlistment, and 37,608 were career soldiers. In boosting reenlistments, the Army changed the Reenlistment Option program. This program now offers stabilized assignments, and units have been added to the unit-of-choice option. As a trial, the Army also permitted soldiers whose first enlistments ended during 1974 to extend for twelve months at a station of their choice if a vacancy existed.

Improvements in testing and counseling were made in the Enlisted Evaluation System. After sixteen months of service, soldiers on enlistments of three or more years were tested in their military occupational specialties and given career counseling before reaching reenlistment eligibility. Also, career counselors at eighteen CONUS installations and nine overseas stations received forty hours of instruction on their roles in the Army's reenlistment efforts.

As recruiting and reenlisting went up, punitive discharges, discharges for misconduct, unsuitability, and unfitness, and discharges for the good of service decreased by nearly 25 percent. This reduction came about even though two new programs were started during the year to discharge substandard soldiers expeditiously. Introduced on 1 September 1973, the Trainee Discharge Program was used to identify recruits who could not adapt to military life or who did not meet minimum standards during the first 179 days of service. About 9 percent of the trainees entering service during fiscal year 1974 were discharged under this program. In October

1973 USAREUR began the Expeditious Discharge Program as a test. This program gave local commanders authority to discharge unproductive soldiers after they had served between twelve and twenty-one months without recourse to an officer board. By the end of the fiscal year, USAREUR had discharged 2,565, and the program was being studied as a possibility for other Army commands.

After many years the Army ended its early release programs because they caused unprogrammed procurement and increased training requirements. Under these programs, soldiers had been released from service up to ninety days early to accept employment in law enforcement, attend school, or serve in Reserve Component units.

With the exception of the Army Medical Department, whose enlisted strength was almost 5 percent above the 39,000 authorized, the Army had problems with shortages in some skills and overages in others and in matching up skills with duty positions. A primary cause of this mismatch of military occupational specialties (MOS's) was the proliferation of enlistment options guaranteeing extended assignments at specific installations or with particular units. In many instances, these options permitted recruits to distribute themselves and left Army personnel managers powerless to place soldiers where they were needed. In addition to decreasing enlistment options, the Army moved to correct the imbalance by establishing in December 1973 the Project Director's Office for Military Occupational Specialty Mismatch. Working within the Office of the Deputy Chief of Staff for Personnel, the director took several steps. Commanders and soldiers were informed of the mismatch problem and its effect on career development. Having soldiers develop dual skills was seen as a way to reduce the problem of space imbalance.[1] The accuracy of the duty and primary MOS data base was improved. The number of MOS's were decreased through consolidation and elimination. MOS's of three characters were reduced from 484 to 476 and those with four characters from 1,006 to 995. All these measures helped to alleviate the mismatch problem. Soldiers whose positions did not match their primary or secondary MOS's, or an MOS conducive to career progression, decreased from 63,000 (11.7 percent) in December 1973 to 46,300 (9 percent) by June 1974.

In related developments the Army replaced sixty-four career groups with thirty-six career management fields and adopted a new MOS specification format that eliminated redundancies in the de-

[1] Space imbalance occurs when more spaces are authorized overseas for an MOS than in continental United States, or vice versa.

scriptions of duties and tasks and skills and knowledge. Also the wording of MOS specifications was simplified.

The centralized enlisted promotion system continued to function well, despite the soldier's dissatisfaction over low selection rates [2] and accuracies in completeness in individual military personnel files. Efforts to improve the condition of the files and to have the enlisted promotion system approximate that for officers continued. Enlisted promotion boards did double duty by identifying soldiers with unsatisfactory performance records, so that separate field screening boards were not needed.

Policy changes were made for promotions to E–5 and E–4. To increase E–5 strength, the term of obligated service following promotion was reduced from twelve to three months, and fewer promotion points were required for entry on the promotion list. For E–4 promotions, the authority of commanders to waive promotion criteria was enlarged.

The enlisted grade structure remained fairly stable during the past year. Strength in the top six grades, however, exceeded Department of Defense ceilings, and corrections are under way. Army enlisted strength, by grade, for the last two fiscal years was as follows:

COMPOSITION OF THE ENLISTED GRADE STRUCTURE

Grade	30 June 1973	30 June 1974
E–9	3,977	3,698
E–8	13,149	12,104
E–7	48,653	45,798
E–6	76,298	71,378
E–5	105,012	96,272
E–4	127,606	176,715
E–3	102,585	94,101
E–2	162,138	103,397
E–1	42,544	70,996
Total	681,962	674,459

Officer Personnel

The officer corps declined during fiscal year 1974 in line with the Secretary of the Army's 1972 plan to reduce officers to 12.5 percent of total Army strength. At the end of the year the Army had 105,572 officers, less than the programmed strength of 106,100, a decrease of 9 percent from the previous year and a 39 percent decline from peak strength during the Vietnam War. To make this reduction, approximately 4,900 Reserve majors and captains were involuntarily released from active duty.

The following table shows the Army's officer and warrant officer strength, excluding non-MPA reimbursables.

[2] Overall selection rates during fiscal year 1974 for senior enlisted personnel were 19.2 percent for E–9's, 16.9 percent for E–8's, and 27.4 percent for E–7's.

OFFICER GRADE STRUCTURE IN FISCAL YEAR 1974

Commissioned Officers	
General officers	466
Colonel	5,052
Lieutenant colonel	11,379
Major	17,656
Captain	31,852
First lieutenant	11,985
Second lieutenant	13,057
Total	91,447

Warrant Officers	
CW–4	1,410
CW–3	3,506
CW–2	7,127
CW–1	2,082
Total	14,125

Officer procurement for fiscal year 1974 totaled 9,466, the lowest figure since World War II. A breakdown is shown below.

FISCAL YEAR 1974 OFFICER PROCUREMENT BY SOURCE

U.S. Military Academy	791
Reserve Officers' Training Corps	3,650
Officer Candidate School	324
Voluntary active duty	480
Direct appointment (JAGC, MSC, Chap)	526
Women's Army Corps	318
Medical, Dental, and Veterinary Corps	1,505
Other	6
Miscellaneous [1]	87
Nurses and medical specialists	683
Warrant officers	1,096
Total	9,466

[1] Includes administrative gains such as recall from retired list and interservice transfer.

As shown, the Reserve Officers' Training Corps (ROTC) continued to be the largest source of new Army officers, although commissions were considerably fewer than the 7,251 last year. Senior ROTC enrollment was also lower, primarily because the draft had been eliminated. A total of 33,220 were enrolled in 291 ROTC units, down from last year's 41,294. Junior Reserve Officers' Training Corps (JROTC) enrollment was 110,839, which includes 22,984 women. JROTC training was conducted in 662 schools, including 12 institutions participating in the National Defense Cadet Corps program. New JROTC units were established in North Dakota, Alaska, and Europe.

During fiscal year 1974 the Army awarded 890 four-year ROTC scholarships, 739 three-year scholarships, 508 two-year scholarships, and 86 one-year scholarships. Under a new program, fifty Army enlisted personnel with two years of college credit won ROTC scholarships for the 1974–75 school year. All told, 6,500 ROTC cadets were supported by scholarships.

In Medical Department recruiting fewer officers were obtained through the Senior Medical and Osteopathic Student Program and

the early Commissioning Program, and the Berry Plan (Armed Forces Physicians' Appointment and Residency Consideration Program) ended along with the draft. Persons already obligated under the Berry Plan were, however, the largest source of new medical officers during the year as indicated in the following summary:

	Student Programs [a]	Direct Procurement [b]	Berry Plan
Medical Corps	327	126	774
Dental Corps	389	49	0
Veterinary Corps	60	5	0
Army Nurse Corps	509	155	0
Medical Service Corps	590	127	0
Army Medical Specialist Corps	42	17	0
Warrant officers	52 [c]	17 [d]	0
Total	1,969	496	774

[a] Includes ROTC graduates branched to Medical Service Corps.
[b] Includes Reserve recalls.
[c] For MOS 911A (Military Physician's Assistant).
[d] For MOS 202A (Medical Equipment Repair Technician).

Officer strength for the Medical Department stood at 16,011 on 30 June 1974, 111 short of the 16,122 authorized, and 1,359 less than at the close of the previous fiscal year. With the aid of pay increases this past year, officer strength should remain at or near authorized levels. The Uniformed Services Variable Incentive Pay Act for Physicians, enacted in May 1974, raised salaries substantially for most military physicians, especially younger ones. Also helping in attracting and retaining doctors were improved facilities, ancillary help, more stable tours, employment within chosen medical specialties, and Army Graduate Medical Education Program.

Full participation in the Uniformed Services Health Profession Scholarship Program, authorized by Congress in fiscal year 1973, was attained. Under this program the Army subsidized 1,350 medical and osteopathic students and 108 veterinary students. The students received Reserve commissions, full tuition and laboratory fees, and a monthly stipend of $400. In return, they agreed to spend forty-five days each year in active service and upon graduation to serve one year of active duty for each year of subsidy, up to four years but not less than two exclusive of training.

During fiscal year 1974 officer promotions remained relatively low and grade authorizations continued to decline. Excluding Medical and Dental Corps officers, 529 men were promoted to colonel, 861 to lieutenant colonel, 1,115 to major, 3,874 to captain, 279 to CW–4, and 721 to CW–3. Time in service and in grade at the end of the fiscal year was as follows:

To	Time in Service (Years/Months)	Time in Grade (Years/Months)
Colonel	20/11	6/6
Lieutenant colonel	15/1	7/0
Major	10/0	7/0
Captain	4/0	3/0
1st lieutenant	2/0	2/0
CW–4	10/7	5/5
CW–3	7/0	5/9

The so-called "Viet Nam hump" (overstrength in the grade of captain brought about by expansion of the Army in the middle and late 1960s) affected promotion to major. In order to maintain the promoting of captains to about ten years, the selection rate was lowered this year to 54 percent and will be kept down for the next few years.

In December 1973 the Army made three major policy changes to improve the qualitative distribution of officers during a period of low selection rates. First, by-name requests were discouraged and would normally be approved for only extraordinary assignments requiring special qualifications. Even then, the Army will carefully consider whether or not the requested officer has completed his tour and is otherwise available for reassignment. Second, the practice of nominating officers before assignment was curbed, and nominations are now limited to positions identified in DA Memo 614–1, United States Military Academy and ROTC instructor positions, attaché positions, and certain military group positions. Finally, the rejection of an officer solely because of a programmed terminal assignment will be discontinued.

Personnel Management

Development of the Army Personnel Plan, an aid in managing the Army Personnel System, was completed during the year. Employing the technique of management by objectives, the plan establishes goals for the Army Personnel System, pinpoints responsibility for accomplishing these goals, and allows for the Deputy Chief of Staff for Personnel and his directors to monitor progress. Up to now, the plan has been used only within the Office of the Deputy Chief of Staff for Personnel, but formal approval of its use Army-wide will be sought during fiscal year 1975.

Two manpower prediction computer models using IBM equipment, but compatible with the UNIVAC 1108 system, were completed during the past year as part of the Army Manpower Prediction System study. The Automatic Interaction Detector—Enlisted (AID—E) model employs a statistical technique to produce enlisted loss rates by category (for example, grade and years of service) on the

basis of "predictor attributes," such as mental category and time in service. The Central Integrating Model—Enlisted (CIM—E) uses the output loss rates AID—E provides to project the enlisted force by grade and years of service under varying sets of policy alternatives up to five years. The two models can test the long-range effects of enlisted policy options under varying situations and constraints. Conversion to the new models should be completed in fiscal year 1975. Two similar models being developed for officers are also scheduled for completion next year.

The ELIM—COMPLIP (Enlisted Loss Inventory Model—Computation of Manpower Programs using Linear Programing) System, which computes programs on the status of Army manpower, went into operation in October 1973. The system can examine different assumptions and policy alternatives and deal with the present and future. Several types of reports and graphic displays of input and output data are available to assist in analyzing the effect of postulated policies and other assumptions.

In implementing the Officer Personnel Management System (OPMS), the Army centralized the selection of lieutenant colonels as commanders. Also, it started to designate specialties for lieutenant colonels and arranged for its Training and Doctrine Command (TRADOC) to study officer education and training within the context of OPMS.

Meanwhile the Enlisted Personnel Management System (EPMS), the equivalent of that for officers, was being developed. A task force formed at the U.S. Army Military Personnel Center began to analyze the Army's enlisted career management fields (CMF's). It will examine the statistical opportunity for promotion and job progression patterns for each CMF and its related military occupational specialties. The Training and Doctrine Command will develop training for each CMF, and the Enlisted Evaluation Center at Fort Benjamin Harrison, Indiana, will refine the evaluation system to support each revised CMF.

The EPMS will be established by 1977. It will standardize career patterns; integrate personnel subsystems for training, military occupational specialty classification, evaluation, and promotion; and improve communication in the career management process. EPMS should increase job satisfaction and motivate soldiers to reenlist.

Pay, Leave, and Travel

The Armed Forces Enlistment Bonus Revision Act of 1974 expanded eligibility to all critical skills and increased the maximum bonus by $500. Payments of up to $3,000 are now authorized for

four-year enlistments. The new law also replaced the Regular Reenlistment Bonus and the Variable Reenlistment Bonus with the Selective Reenlistment Bonus, which provided a maximum award of $15,000 but limited the bonus to personnel possessing critical skills. It also extended the period of eligibility from a maximum of 8 years' service to 10 years and structured the eligibility period into two zones (from 21 months to 6 years and from 6 to 10 years) so that a soldier could receive two bonuses during his career. Notwithstanding the basic provisions of the new law, the Department of Defense authorized up to $2,500 for the enlistment bonus and $12,000 for each selective reenlistment bonus.

Congress also approved a new Variable Incentive Pay program that offers medical officers as much as $13,500 in incentive pay for each additional year of active duty. For aviators the Aviation Career Incentive Act of 1974 more equitably distributed flight pay and is better suited to attracting and retaining officer aviators.

In October 1973, the Comptroller General of the United States approved the documentation for the Army's portion of the Joint Military Pay System (JUMPS) as meeting all Department of Defense and General Accounting Office requirements. As the first of the services to receive such approval, the Army continued to improve pay service. Becoming more proficient in the system and applying quality control measures, Army finance offices virtually eliminated backlogs in processing pay changes. The Army-wide average of pay transactions rejected by the computer at the U.S. Army Finance and Accounting Center declined from a high of 3.5 percent at the beginning of the fiscal year to an all-time low of 1.6 percent in June 1974. These percentages were based on approximately 1,100,000 transactions per month.

Also reduced was the number of end-of-month cash payments caused either by processing failures at the Finance and Accounting Center or by pay errors made in the field. In June 1973 local cash payments were made to 1.6 percent of the Army, but less than 0.5 percent received them a year later. Errors that necessitated these cash payments were almost evenly divided between soldiers and finance offices.

Another indicator of an improved pay system was found in congressional inquiries on soldiers' pay complaints. On the average, of forty congressional inquiries received monthly, only seven were identified with JUMPS. Of these, only two were valid and had to be corrected.

As in fiscal year 1973, the Office of the Secretary of Defense submitted a comprehensive proposal to modernize the retirement

benefits of the military services. The principal change from the previous Defense plan, described in last year's summary, is the integration of military and social security retirement benefits at age sixty rather than at age sixty-five. Congress has yet to act on the Defense proposal.

On 2 January 1974 the Army extended permanent change of station travel entitlements, including dependent travel, transportation of household goods and privately owned vehicles, trailer allowance, dislocation allowance, and overseas station allowance to all E–4's with over two years of service. These soldiers could also request overseas commanders to sponsor their dependents in the same manner as members in higher grades.

As the fiscal year ended, the Army reduced the need for interim family moves when a soldier is assigned overseas. Concurrent travel is encouraged if government quarters or suitable foreign housing is available within thirty days after arrival. Deferred travel is approved if accommodations are available within 31 to 140 days. Families can remain in stateside government quarters up to 140 days after soldiers depart for overseas or 60 days after their overseas reporting date if there is temporary duty en route.

In other matters affecting pay, leave, and travel, the Army discontinued all Class Q allotments upon the expiration of the Dependents Assistance Act on 1 July 1973; canceled the thirty-day special leave program, a Vietnam War measure, on 30 June 1973; and put into Army-wide use a simplified leave form designed to improve leave accountability. Meanwhile Congress authorized a travel and transportation allowance for members of the armed forces between consecutive oversea assignments, one of which is without dependents, to permit them to travel to the family residence and assist in moving. In the same legislation Congress provided additional leave and travel benefits for bachelors.

Equal Opportunity and Minority Recruitment

Under provisions of Public Law 93–177, signed by President Nixon on 6 December 1973, the Secretary of the Army will pay $25,000 to veterans dishonorably discharged as a result of an incident that occurred in Brownsville, Texas, on 13 August 1906 (see last year's summary for a description of the incident). The law also authorizes $10,000 for unremarried widows of the veterans. Supporting the legislation, the Army has paid $95,000 to one surviving veteran and seven unremarried widows.

Planning is under way for a new training program at the Defense Race Relations Institute (DRRI) for equal opportunity staff

officers and specialists. This training will consist of a five-week theory course taught by DRRI instructors and six weeks of Army-oriented instruction taught by resident Army faculty. Courses will begin early next year.

The Army held its third worldwide Race Relations and Equal Opportunity Conference at Fort Monroe, Virginia, on 16 and 17 January 1974. Discussing current problems and future direction, conferees submitted 138 recommendations, which the Army staff is now considering.

Several Army regulations were strengthened. A revision of AR 600–21, Race Relations and Equal Opportunity, requires planning for positive race relations and equal opportunity and for monitoring compliance with the regulation. Changes in AR 600–18, Equal Opportunity in Off-Post Housing, help local commanders deal more effectively with housing complaints. Sanctions can be placed on all properties of an owner who discriminates if the complaint is substantiated, and the complainant is given priority for on-post housing or allowed a compassionate reassignment. Policies governing race relations education were published in AR 600–42, dated 11 December 1973. This regulation requires race relations education for all members of the Army.

The Judge Advocate General's Corps continued its extensive minority recruiting program. As before, recruiting trips were made to law schools with a substantial minority student enrollment. Communications have been established through the National Bar Association to the Black American Law Students Association, and coordination with the National Association for the Advancement of Colored People (NAACP), National Urban League, and the National Conference of Black Lawyers has begun. Under the Summer Intern Plan, ninety-eight law students, 30 percent of whom were members of minority groups, were employed as interns in the United States and Europe. At the end of the fiscal year 32 blacks, 19 women, 8 Mexican-Americans, 5 Puerto Ricans, and 6 Orientals were lawyers in the Judge Advocate General's Corps.

To increase the number of minority group officers on active duty, the Army has concentrated on ROTC enrollments. In the 1973–74 school year, it offered ROTC at eighteen predominately black colleges and universities and allowed students at twenty-one other black institutions to enroll in ROTC units at other institutions. Minority recruiting billets have been created in the Advertising and Information divisions of the ROTC region commands, and contracts for minority recruiting assistance have been awarded to the NAACP, the American GI Forum, and the National Urban

League. As a result of all these measures, ROTC minority enrollment for the 1973–74 school year increased from 17.4 percent to 22.3 percent.

The number of women in the Army increased this past year to 26,000, exceeding the goal of 25,400 and some 17 percent higher than that for the previous year. The enlistment goal of 14,400 for the Women's Army Corps (WAC) was also exceeded.

Opportunities for women expanded concurrently. Flight training, parachute rigging, automotive and aircraft mechanics, and law enforcement were opened to them. Women are now eligible to serve in 430 of the Army's 467 military occupational specialties and only combat-related specialties remain closed.

Illustrative of the Army's determination to make better use of women is what is happening in law enforcement. Last year the Army began to integrate women into the law enforcement career group. Now more than 400 Wacs have completed training and are performing military police (MP) duties all over the world. An additional 180 women are in training. Restrictions on assigning women to combat support military police units, to security duties, and to duties requiring the handling of dogs have been removed. By year's end, military policewomen had joined each of the Army's MP battalions and two division MP companies; airborne training and assignment had been opened to enlisted women; military policewomen had been assigned to security duties at Seneca and Sierra Army Depots and Dugway Proving Grounds; and eleven women were in training at Lackland Air Force Base for sentry duty and handling dogs trained in marihuana detection.

The ROTC program for women increased this past year from a pilot program at 10 colleges involving 212 cadets to 3,098 women at 262 institutions. Women in Junior ROTC reached 22,780.

Because of the rapid expansion of the Women's Army Corps, a second WAC basic training site was established at Fort Jackson, South Carolina. The other site, Fort McClellan, Alabama, continued as the home of the Women's Army Corps.

Most of the uniform shortages experienced during the early stages of the WAC expansion have been resolved. A study of women's uniforms is under way, and the objective is to make them more functional, yet more feminine.

Alcohol and Drug Abuse

Started in 1971, the Army Alcohol and Drug Abuse Prevention and Control Program is intended to reduce drug abuse through education, law enforcement, and community action; identify abusers early; and rehabilitate and return them to full duty. Dur-

ing fiscal year 1974 the Army reviewed the program and made several improvements. It published a pamphlet entitled *A Commander's, Supervisor's, and Physician's Guide to Alcohol Abuse and Alcoholism* and arranged for educational courses, some in cooperation with other governmental agencies and civilian institutions, for leaders in the alcohol and drug abuse program. Also, the Army added fifty-five civilian coordinators to the staffs of major installations as it expanded alcohol and drug treatment services for the Army's civilian employees.

While the problem of drug abuse in the Army has not been solved, progress has been encouraging. The rate of drug abuse as indicated by random urinalysis testing has gradually declined worldwide from 1.8 percent of those tested in July 1972 to 0.7 percent in May 1974, is currently 1 percent in Europe, compared to 3.1 percent in the second quarter of fiscal year 1973, and has remained stable at less than 1 percent in other oversea areas and in the United States.

Leadership and Motivation

During the past year the Army changed its approach to leadership instruction in service schools, replacing lectures whenever possible with the small group and problem-solving method of teaching. It also started a new program, Personal Effectiveness Training, to develop the junior leadership of the Army. Under this program, chaplains skilled in individual and group counseling instruct company commanders and noncommissioned officers on how to create a conducive climate for leaders to care for their soldiers. Eighteen Training and Doctrine Command installations and eleven Force Command posts have used the program, and plans are under way to incorporate it in the curriculum of the Army's Drill Sergeant schools. While this training has not been fully assessed, attitudinal surveys at participating posts are favorable.

In April 1974 the Deputy Chief of Staff for Personnel approved an expanded concept of military personnel management that emphasizes human resources development. Also this past year the Army carefully staffed the Personnel and Administration Combat Development Activity, a newly formed agency that is responsible for developing leadership and management doctrine.

Crime, Discipline, and Military Justice

The Army during the past year simultaneously worked to prevent crime, improve its law enforcement capabilities, refine crime

reporting procedures, and spread the word that crime prevention is everybody's business.

In the fight against crime, the Army strengthened its regulations. AR 190–31, Department of the Army Crime Prevention Program, was published on 15 October 1973. Providing overall guidance, this regulation specifies milestones for measuring progress in crime prevention. AR 190–30 on the Army's Military Police Investigator (MPI) Program was revised to delineate responsibility for investigating crimes involving possession and use of nonnarcotic controlled substances and improve coordination between military police investigators and the United States Army Criminal Investigation Command.

Meanwhile the Army has nearly doubled the number of qualified investigators, from 441 to 865. Women have been added, and seven are now working as investigators. The qualifications of investigators have also improved. Higher personnel standards have been set, and formal instruction is being given to those investigators who acquired their status through on the job training.

During 1974 several forms used in the Law Enforcement Reporting Subsystem of the Military Police Management Information System were improved to include color-shading, carbon packs, and highlighting of key subject areas. The revised forms provide for more consistent, timely, and precise reporting of law enforcement information.

In November 1973 the Army authorized the installation of recording devices at military police desks to provide an uncontroverted record of emergency communications. Public announcements have been made of the use of these recording devices, and restrictions on access to them have been established.

As noted in last year's report, efforts are under way to make better use of dogs. While requirements for sentry duty and for the detection of narcotics and contraband are expected to remain steady, there will be an expanding need for multipurpose patrol dogs. As of 30 June 1974, 216 military police patrol dogs were authorized and 152 assigned. Eighty dogs were authorized for the detection of narcotics and contraband and sixty-nine assigned. For sentry dogs the authorization of 322 was less than the 431 assigned because of the discontinuation of the Army Air Defense Command (ARADCOM).

Although the effects of the Army's improvements in law enforcement cannot be measured individually, the statistical record shows that the Army is holding its own in preventing crime and maintaining discipline. Crimes of violence during fiscal year 1974 held

steady at 7.98 incidents per thousand as compared to 7.83 during fiscal year 1973. Crimes against property rose from 50.8 incidents per thousand in fiscal year 1973 to 55.02 in the past year. Indexes of poor discipline, however, were down. The AWOL (absent without leave) rate dropped from 159.2 to 131.25 incidents per thousand, an 8 percent decrease. The desertion rate dropped from 52.1 incidents per thousand to 41.5, down 20 percent.

The number of Army personnel tried by courts-martial for the past two fiscal years was as follows:

PERSONS TRIED BY COURTS-MARTIAL IN FISCAL YEAR 1973

	Convicted	Acquitted	Total
General	1,493	128	1,621
Special	12,802 [a]	1,049	13,851 [a]
Summary	6,627	699	7,326
Total	20,922	1,876	22,798

[a] 900 of these were special courts-martial where a bad conduct discharge was included in the approved sentence.

PERSONS TRIED BY COURTS-MARTIAL IN FISCAL YEAR 1974

	Convicted	Acquitted	Total
General	1,696	152	1,848
Special	13,644 [a]	1,170	14,814 [a]
Summary	4,825	500	5,325
Total	20,165	1,822	21,987

[a] 1,249 of these were special courts-martial where a bad conduct discharge was included in the approved sentence.

In the twelve-month period beginning 1 December 1972, 41,792 Army people (39,818 military and 1,974 civilian employees and dependents) were charged with offenses subject to the jurisdiction of foreign courts. Of the 18,659 charges against military personnel in which the host country had primary jurisdiction, Army authorities obtained waivers for 17,614, a rate of 94.4 percent. As of 30 November 1973, 111 Army personnel were in foreign confinement.

During June 1974 the Army tightened its control over access to the FBI National Crime Information Center (NCIC) computerized criminal histories file. Access is limited to Army law enforcement and criminal justice agencies discharging official responsibilities, and it must be arranged through a single Army NCIC terminal located at the Crime Records Directorate, Fort Holabird, Maryland.

Because of the importance of administrative due process and in response to recommendations made by the Department of Defense Task Force on the Administration of Military Justice, changes were made in the administration of military justice during the past year. The serviceman's rights in a nonjudicial punishment proceeding have been expanded to include the right to seek advice from legal counsel, to have an open hearing, and to have punishment,

with the exception of reduction in rank or forfeiture of pay, stayed pending appeal. A test program for the limited selection of courts-martial members on a random basis was begun at Fort Riley, Kansas. Defense counsel offices have, where possible, been physically separated from those of the staff judge advocate and trial counsel to aid in dispelling the perception of some soldiers that defense counsels were in effect "company men." The Legal Center Concept, a program that consolidates command legal offices in a geographical area with the staff judge advocate as the nucleus, was implemented Army-wide on an optional basis.

In addition, the military magistrate program, following a successful test, was being considered for Army installations with large, pretrial prisoner populations. Under the program the general courts-martial convening authority exercising control over an installation confinement facility would delegate his power to release individuals from pretrial confinement to an appointed magistrate. The military magistrate could order the release from pretrial confinement of any prisoner where confinement would not meet the legal requirements set forth in the manual for courts-martial. The magistrate would consider all facts surrounding the case and interview each accused placed in pretrial confinement within seven days of initial incarceration. Thereafter, the military magistrate would review each case of pretrial confinement not less than every two weeks to determine whether continued pretrial confinement was warranted.

Civilian Personnel

Despite reorganizations and reductions, Army civilian strength increased slightly (less than 1 percent) to 441,258 on 30 June 1974, a reversal of the steady declining trend since Vietnam peak employment in fiscal year 1969. This year's increase occurred primarily as the result of converting some stateside positions from military to civilian.

Civilian employment overseas declined, but at a substantially slower rate than before. The mix of the overseas work force continued to shift toward a higher proportion of U.S. citizens because of the increased use of military and civilian dependents. U.S. citizens represented 16 percent of the 99,715 civilians employed overseas, compared with only 12 percent last year.

In carrying out the various reorganizations and base closures of the past two years, the Army has sought to reduce the effects on civilian employees. Beneficial in this regard has been Public Law 93–39, which permits employees of an agency undergoing a major

reduction to retire earlier than would otherwise be possible. With 4,500 resultant early retirements coupled with 8,500 others the Army last year was able to retain many young employees who otherwise would have been involuntarily separated. Few employees who were geographically mobile were separated without an offer of continuing employment.

Last year 9,842 military jobs were converted to civilian positions. These positions were in support activities such as medical care, clerical work, motor transport, food service, and law enforcement. The conversion not only freed military personnel for strictly military duties but also helped to reduce the effects of reorganizations and reductions by making jobs available for civilian employees who would otherwise have been separated.

The Army continued to monitor and control the grade average of white collar civilian workers. Since the beginning of the grade control program in fiscal year 1971, the Army's average General Schedule grade has been reduced from 7.75 to 7.50, with a resulting annual savings of $79 million.

The Army maintains civilian career programs for employees in eighteen professional and technical occupations, such as science, engineering, automatic data processing, and financial management. These programs provide for the recruiting and training of career interns, further training, development, and counseling as employees progress in their careers, and Army-wide consideration for top-level jobs. A total of 71,000 careerists, including 85 percent of upper level white collar employees, are currently covered by these career programs. Management has been consolidated under the newly established Civilian Career Management Agency, which provides centralized support to the top executives responsible for each career field. Using a centralized data bank, these executives annually review employees' records and evaluate their progress. The centralized data bank is also used to establish lists of employees who are eligible for promotion or for reassignment to vacant jobs worldwide. In related areas, the Army is realistically projecting intern requirements, reducing losses among interns, and insuring that nonprofessional employees with high potential are considered for intern positions.

In August 1973, the Office of Management and Budget selected the Department of Army as one of twelve federal agencies to conduct a special executive development program during fiscal years 1974 and 1975. As part of this program, the Army has identified 3,832 executives and mid-level managers to receive special training

and developmental assignments and has prepared career plans for them. The training is now under way.

Advancement opportunities for minority and women employees continued to improve. The average grade gap for minorities decreased slightly during the past year, and two minority employees received promotions to supergrade positions. Minority interns recruited for career programs increased by 35 percent and women interns by 38 percent. The percentage of the work force composed of Spanish-speaking employees also increased.

During fiscal year 1974 the Army employed 14,493 Vietnam veterans, one of every four persons hired and considerably more than the 9,688 hired last year. About a quarter of the veterans hired during the fiscal year were appointed under a work-training program especially designed for them.

To improve the attractiveness of a military career, the Army has made a special effort to hire dependents. In the United States wives and children are informed of Army job opportunities and are encouraged to compete for vacancies. Overseas the Army has permission from the Civil Service Commission to give employment preference to military dependents for positions to be filled locally. As a result, appropriated fund employment of dependents overseas increased substantially during the year to 6,705. Most employed dependents reside in Europe, where they are almost half of the U.S. citizen work force paid from appropriated funds. Additionally, many jobs in nonappropriated fund activities are opened to dependents.

The Army has improved personnel services for nonappropriated fund managers and employees who provide recreation and entertainment for the military. With these services centralized at installation level, managers and employees now have a reliable source of information about the proper application of laws and regulations pertaining to them.

The number of Army employees represented by labor unions declined during fiscal year 1974 for the first time since unionization was permitted in 1962. On 30 June 1974 there were 722 exclusive bargaining units covering 213,037 civilian employees, compared to 740 units and 221,852 employees in 1973. This decrease is the result of Army reorganizations and reductions in strength, which in some cases eliminated organizations with recognized bargaining units.

In complying with a new U.S. Civil Service Commission requirement, the Army began to review its regulations to revise those that unnecessarily restricted labor management bargaining. By the end of the year local installations Army-wide could negotiate agree-

ments with unions without prior review by Headquarters, Department of the Army. After the agreements are put into effect, major commands will review them to assure compliance with laws and regulations.

Since the start of the labor management relations program in 1962, the Army has trained more than 8,200 civilian and 4,900 military managers and supervisors. Within the last six months alone, and in connection with the delegation of authority to local commanders to sign labor agreements, the Army conducted eleven executive labor relations seminars attended by 600 major commanders, installation commanders, and key managers. In recognition of the quality of its labor relations training, the Army was named the executive agent for establishing and running a Department of Defense Center for Labor Management Training beginning in fiscal year 1975.

VII. Reserve Forces

To provide additional combat forces in support of NATO, the Army during fiscal year 1974 started its Affiliation Program between its two Reserve Components, the Army National Guard of the United States (ARNGUS) and the U.S. Army Reserve (USAR), and the active Army. Intended to provide active Army divisions upon mobilization with trained units and qualified individuals, the program encompasses the augmentation of both full-strength and understrength divisions, provides for substantial training support for the affiliated unit by the host unit, and is fully funded.

Seven separate battalions and 5 brigades with 21 maneuver and 5 artillery battalions (24 National Guard and 2 Army Reserve), as well as 1 brigade headquarters and headquarters company, have entered the Affiliation Program. Thirteen of the participating battalions will undergo active duty training this summer with their active Army counterparts or at Army schools, and the remaining thirteen battalions will be assisted during their fifteen-day annual training exercise by their sponsoring units.

The Affiliation Program will be expanded next year and is expected to improve readiness, reduce post-mobilization training, and promote the one Army policy.

In a related activity, the mutual support program, which encourages collaboration among the Army's components, continued to grow. Numerous mutual support associations were formed between Reserve Component units and Regular Army units and installations. Over half of all ARNG and USAR units were participating in the mutual support program at year's end, benefiting from access to modern equipment, current doctrine, and excellent training facilities.

Management

The reorganization of the Army in mid-1973 established a new environment for the management and support of Army Reserve Components. With the U.S. Army Forces Command made responsible for the training of all units, regardless of component, in the United States, the Army promoted a close active-Reserve relationship conducive to readiness. Given Reserve Component readiness as their primary mission, the three continental armies operating under Forces Command supervise all USAR activities and oversee the

training of the National Guard. Nine Army readiness regions, which became operational on 1 October 1973, assist Reserve Component units in correcting readiness shortcomings and coordinate the support rendered by active Army units and installations. Reserve Force directorates, established at major CONUS installations, handle Reserve requests for assistance and promote mutual support relationships.

The Office of Reserve Components was abolished on 20 May 1974. Responsibility for plans and policies for the Reserve Components was placed directly with the Chief, National Guard Bureau, and Chief, Army Reserve, who coordinate with appropriate Army staff agencies.

Force Structure

On 13 August 1973 the Secretary of Defense directed the Army to reduce its Reserve Components by 48,000 spaces and, in a realignment of strategic defensive forces, to eliminate its National Guard Nike-Hercules Air Defense units (twenty-seven firing batteries and eleven headquarters batteries), a loss of 4,500 additional spaces. By the end of the fiscal year inactivation of the air defense units was well under way, but the 48,000-space reduction was deferred pending resolution of congressional opposition.

To take advantage of active Army training capabilities and to simplify command, ARNG divisions have been organized within the states of California (40th Infantry Division) and Texas (49th Armored Division). They replace divisions previously split among Alabama, Mississippi, and Tennessee (30th Armored Division) and Georgia, North Carolina, and South Carolina (30th Infantry Division). Separate brigades and other units in California and Texas formed the new divisions, and separate brigades were established in the states associated with the inactivated divisions. In making these divisional changes, the Army has converted four light brigades to four heavy brigades.

The National Guard was established in the Virgin Islands, where a state headquarters, two military police companies, and a band were authorized. In Louisiana a construction engineer battalion was organized, the tenth ARNG unit of its kind. Missouri lost a mechanized infantry battalion, which was moved to Kentucky, but gained a combat engineer battalion. The National Guard now has thirty-three combat engineer battalions. Four surgical and three evacuation hospitals were reorganized as combat support hospitals, and five forward area signal platoons were relocated and incorporated into separate brigades.

As of 30 June 1974, the National Guard had 3,303 units, an increase of forty from 30 June 1973. Major organizations were as follows:

5	infantry divisions
1	mechanized infantry division
2	armored divisions
9	infantry brigades
6	mechanized infantry brigades
3	armored brigades
4	armored cavalry regiments
2	Special Forces groups
158	separate battalions
1,007	other company- and detachment-size units

In the Army Reserve, the majority of security units were reorganized under the G and H series of the modified tables of organization and equipment; a new Army security agency company (aviation) was added at Orlando, Florida; a medical detachment (helicopter ambulance) was activated at New Iberia, Louisiana; and an engineer company was organized on Guam. The 89th Division (Training) was inactivated, thereby reducing the number of training divisions to twelve. Elements of the inactivated division were used to form the 89th Army Reserve Command (ARCOM) and other units in Kansas, Nebraska, North Dakota, and South Dakota.

The USAR troop basis consisted of 3,257 company- and detachment-size units at the end of the fiscal year. Major organizations were as follows:

Army Reserve command	19
Division (training)	12
Maneuver area command	2
Engineer command	2
Military Police command	1
Mechanized brigade	1
Infantry brigade	2
Field army support command	1
Transportation brigade	3
Military Police brigade	3
Engineer brigade	2
Support brigade	3
Civil Affairs area (A)	3
Hospital center	4
Hospital (1,000-bed)	5
IX Corps (Aug)	1
Maneuver training command	7
Hospital (Misc)	98
Special Forces group	2
Battalion (separate)	61
Other company- and detachment-size units	1,640

Personnel

Both the Army National Guard and U.S. Army Reserve ended fiscal year 1974 with more assigned people than authorized. The National Guard, at 410,682, was 8 percent above authorized paid drill strength; the Army Reserve, at 239,715, was 2 percent overstrength. Significant gains were made in recruiting blacks, who now comprise 5 percent of the National Guard and 7 percent of the Army Reserve. In female recruiting the National Guard exceeded

its goal for the year of 2,406 by 14 percent; the Army Reserve exceeded its goal of 3,400 by 82 percent. The high-strength levels were the result of intensive recruiting campaigns, successful advertising and publicity efforts, and new enlistment options.

Introduced this year were two enlistment options which are available to high school graduates in mental categories I, II, or III. The first option, 3X3, permits three years of unit service followed by three years in the Individual Ready Reserve (IRR). The second, 4X2, offers four years of unit and two years of IRR service. These options are attracting quality personnel in addition to boosting the strength of the Army's Reserve Components.

The Individual Ready Reserve of the U.S. Army Reserve is comprised of members who are not assigned to units. During the year the Ready Reserve was screened; 175,233 were transferred to the Standby or Retired Reserves, and another 92,995 were discharged. The strength of the Individual Ready Reserve at the close of the fiscal year was 532,575, as follows:

	Officer	Enlisted	Total
Control group annual training [a]	25,579	344,304	369,883
Control group MOBDES [b]	5,818	30	5,848
Control group reinforcement [c]	30,597	115,054	145,651
Control group delayed [d]	—	4,374	4,374
Control group/officer active duty obligor [e]	6,819	—	6,819
Total	68,813	463,762	532,575

[a] Officers and enlisted men who have a remaining statutory obligation and are subject to mandatory training requirements.
[b] Reservists who have specific assignments upon mobilization and train with their unit of assignment for this eventuality for at least twelve days each year.
[c] Includes obligated members who are not subject to mandatory training requirements and nonobligated members not assigned to a unit who volunteer to participate in Ready Reserve training.
[d] Enlisted obligated members awaiting entry on active duty for training.
[e] Obligated officers awaiting entry on active duty or active duty for training.

The Standby Reserve, which consists primarily of individuals who have completed their Ready Reserve obligation, had a strength of 340,481 (39,228 officers and 301,253 enlisted men) at the end of the year. The strength of the Retired Reserve stood at 357,591 (169,528 officers and 188,063 enlisted men).

Requirements for direct-hire ARNG technicians were increased during the year from 33,447 to 34,463 to support an enlarged aviation inventory. Authorized technician strength, however, was 28,693, or 83.3 percent of requirements, and actual strength increased during the year from 27,316 to 28,654.

The status of technicians in the U.S. Army Reserve as of the end of fiscal year 1974 is listed below.

Required	9,128
Authorized	8,234
Assigned	8,172
Percent assigned to required	89.5
Percent assigned to authorized	99.2

On 12 July 1973 a fire broke out at the U.S. Army Reserve Components Personnel and Administration Center which seriously impaired the center's operations, particularly automatic data processing. Before the fire, the center was operating two RCA 3301 computers on a three-shift, five-day basis. Afterward the center used as an interim measure both Army and commercial facilities at eight different locations in five states. By 15 September 1973 the center was again operating its own systems at a temporary site in the St. Louis area.

Equipment and Maintenance

The Reserve Components in fiscal year 1974 got some modern equipment, had a gain in net inventory, and carried out management programs begun in prior years. Equipment issues during the year, however, amounted to only $256 million, down sharply from $862 million last year. The decrease stemmed primarily from the diversion of Army combat equipment to meet Middle East demands. Critical equipment shortages continued, particularly for medium tanks, self-propelled artillery, radars, tactical bridges, and tactical radios. The table below indicates the equipment requirements and assets of the Reserve Components in billions of dollars.

	30 June 1974
Mobilization requirement	$5.606[a]
Training requirement	5.095
Inventory (assets)	3.074
Inventory contingency/obsolete assets	.397
Percent fill for training	.680

[a] Figures do not reflect current inflation or future "buy out" prices and exclude "float" and "combat consumption" factors.

The dedicated maintenance program for the Reserve Components was funded at $50 million and promises a return of about $200 million in overhauled equipment. As of April 1974, 8 percent of this equipment had been turned over to Reserve Component units, and delivery of the remainder is expected to continue through fiscal year 1976. Meanwhile, deliveries associated with 1972 and 1973 programs will extend through fiscal year 1975. Some delays have been encountered, reflecting shortages of basic issue items and the installation units required to mount radios in vehicles, caused in part by the diversion of equipment to meet worldwide requirements.

The number of aircraft in the Reserve Components' inventory rose from 2,353 (1,919 ARNG and 434 USAR) on 30 June 1973 to 2,706 (2,230 ARNG and 476 USAR) at the end of fiscal year 1974. Included in the ARNG inventory for the first time were AH–1 Cobra gunships.

Construction and Facilities

The USAR military construction program for fiscal year 1974 was $40.7 million, an increase of $2.5 million over 1973. An additional $32.5 million carried over from prior year programs brought the total to $73.2 million. Of this available money, $50 million was obligated, the largest amount since the USAR military construction program began in 1950.

With USAR facilities of varying adequacy, the Army has made long-range plans for replacement and expansion. Leased or donated buildings that are either inefficient to maintain or are inadequate will be replaced by government-owned facilities. The status of USAR training facilities at the close of the fiscal year was as follows:

Required	Occupied	Adequate	Inadequate
1,005	981	418	563

New obligation authority for the ARNG military construction program in fiscal year 1974 was $35.2 million, the amount carried over $3 million, and the total available $38.2 million. Major outlays during the year included $12.6 million in construction contracts for twenty-seven administrative and logistical facilities, $8.2 million for annual and weekend training sites, and $8.8 million for armory construction, expansion, or renovation. The status of ARNG armories at the end of the fiscal year was as follows:

Required	Occupied	Adequate	Inadequate
2,753	753	2,080	673

Of 2,094 ARNG administrative and logistical facilities, 1,850 are adequate.

Despite increased spending during the past year for USAR and ARNG military construction programs and progress on the ten-year Reserve Components construction plan, which was noted in last year's report, the backlog of projects continued to increase. At the end of fiscal year 1974 it was $798.6 million, compared to $708 million for 1973.

Readiness and Training

Despite shortages in modern combat equipment, the overall readiness of the National Guard improved during fiscal year 1974. Over half of the major units under the Unit Readiness Report system increased their readiness. Contributing to these improvements were better training, gains in strength, increased percentages

of Guardsmen qualified in their MOS's, and a redistribution of major equipment to high-priority units.

USAR units maintained the high level of readiness attained during the previous two fiscal years. Many Army Reserve units were ready for immediate mobilization and employment, less the time required for Reservists to notify employers, arrange personal affairs, and report to mobilization stations. The maintenance of authorized strengths, however, remained a serious readiness problem for some USAR units.

The incorporation of a revised Army readiness reporting system into the Joint Chiefs of Staff Force Status and Identity Report (FORSTAT), which was described in last year's summary, went into effect on 1 July 1973. All Reserve Component units down to separate companies and designated platoons and detachments are required to report semiannually on their status. The reports have produced a wide range of automated information on personnel, equipment, and training that is useful in assessing readiness.

In 1972 the Army started to test and evaluate a number of concepts to increase the utility and readiness of the Reserve Components. As of 30 June 1974 field testing had been completed on six of seven concepts. The remaining test on full-time Reserve cadre headquarters is scheduled for completion in August 1974. Although the tests have led to new programs, such as the Affiliation Program, they have also prompted a more cautious approach to other proposals until costs and effectiveness can be weighed.

The Army is publishing Army Training and Evaluation Programs (ARTEP's) for active and Reserve Component combat, combat support, and combat service support units to replace existing training literature. The ARTEP's will identify the training objectives a unit must attain to be considered combat ready.

Despite curtailments brought about by the fuel crisis, some 3,000 Reserve Component members participated in units and as individuals in oversea training exercises during fiscal year 1974. Conducted in Puerto Rico, the Panama Canal Zone, Alaska, Europe, Australia, New Zealand, and the Far East, the training was of high quality and reduced barriers among the Army's components. Joint exercises held within the United States included LOGEX–RC, in which 2,908 persons in fifty-one Reserve Component units participated during June 1974.

Support to Civil Authorities

The National Guard has been called into state service more frequently in recent years to aid civil authorities during national

disasters and other emergencies. Last year, Guardsmen were ordered to state service 52 times for assistance related to floods, 39 for forest fires, 31 for tornadoes, 12 for ice and wind storms, and 47 for other contingencies, such as search and rescue missions, traffic control, and food delivery. A total of 18,552 Guardsmen participated in these operations.

There were twenty-five other call-ups involving 21,139 Guardsmen. Fourteen were caused by the truckers' strike and blockade of January 1974, 4 were to quell prison disorders, 2 were to operate a school and a hospital paralyzed by strikes, 2 were for firemen's strikes, and 4 involved potential disorders that did not materialize.

Army National Guard units with a civil disturbance mission received refresher training during the past year, and key personnel (E–5 through 03) attended a special eight-hour leadership course. Additionally, 303 National Guard officers attended the Civil Disturbance Orientation Course at the U.S. Army Military Police School, Fort Gordon, Georgia.

VIII. Management, Budget, and Funds

Management Programs, Systems, and Techniques

During the 1960s several programs to improve resource management within the Army were established under the auspices of different Army staff agencies. This diversification of effort was confusing and difficult to control. In fiscal year 1974 the Army centralized its direction of these multiple management improvement programs, which included management reviews, improvement incentives, training priority improvement projects, productivity measurement, reports management, cost reduction, zero defects, and the Defense Integrated Management Engineering System. The Comptroller of the Army and comptrollers throughout the Army now serve as the principal staff directors of the Department of Army Management Review and Improvement Program. Army Regulation 5–4, published in September 1973, established overall policy for this program. Seven supplementary pamphlets on management techniques were also published, and a management training program for first-line military and civilian supervisors was developed.

There were a number of significant developments relating to the component systems of the Army Management Information System (AMIS). The Base Operating Information System (BASOPS), the Army's first multicommand and multifunctional computer system, was extended to three additional locations during the year. Forty-two installations now have a Base Operating Information System. Automatic data processing equipment was improved at BASOPS posts to support new, more sophisticated and complex functional software systems. At small- and medium-size posts the capacity of IBM 360/30 computers was increased, and at large installations the IBM 360/30's were replaced with IBM 306/40 computers.

The worldwide extension of the Standard Army Intermediate Level Supply (SAILS) Subsystem was approved. SAILS, which replaces the original BASOPS supply management system, was set up at seventeen of the forty-two BASOPS installations during the year. A SAILS package was completed and installed at the 1st Corps Support Command, Fort Bragg, North Carolina. The initial increment of the SAILS selective management package was developed, tested, and installed at Headquarters, U.S. Army,

Pacific. The development of an expanded SAILS package to replace the supply systems presently used at the intermediate support levels in overseas commands is under way.

The Standard Installation/Division Personnel System (SIDPERS) was approved for implementation worldwide. The system is now operational at twenty-eight BASOPS installations. In addition to replacing the original BASOPS personnel subsystem, SIDPERS supersedes the Personnel Management and Accounting Card Processing System and a manual system that had heretofore serviced approximately 50 percent of the Army. Worldwide conversion to the new system, which will be adapted for use by the Reserve Components, was approximately 55 percent complete by the end of fiscal year 1974.

The Standard Finance System, which is the BASOPS financial management subsystems, was operational at forty-four installations as of 30 June 1974. During the past year the system was extended to 4 installations of the Health Services Command, 1 Forces Command installation, and 2 USARPAC commands—U.S. Army Support Command, Hawaii, and U.S. Army, Japan.

A prototype of a standard civilian pay system underwent testing at Fort Sam Houston, Texas, during the year. Approval to extend this system to all BASOPS stations is expected early in fiscal year 1975. Prototype testing of the Military Police Management Information System was begun at Fort Bragg, North Carolina.

Following successful testing of the Combat Service Support System (CS_3) by the 2d Armored, 1st Cavalry, and 101st Airborne Divisions, U.S. Army Forces Command recommended that the system be extended to all Regular Army divisions. The division system consists of an IBM 360/30 computer housed in a mobile two-van complex with input terminals located at each brigade. The software packages are the Standard Installation/Division Personnel System, the Division Logistics System (DLOGS), and the Maintenance Reporting and Management System. DLOGS is an interim supply system and will be replaced by the Standard Army Division Level Supply System after development and testing. At year's end preparations were under way to test CS_3 at corps level.

The Army's Commercial and Industrial Type Activities (CITA) Program, a response to government policy that federal agencies rely primarily on private enterprise for products and services, was emphasized by the Department of Defense and the Office of Management and Budget during fiscal year 1974. The CITA training program at Fort Lee, Virginia, was expanded and 269 persons

were trained. Additionally, 2,800 persons received CITA instruction at their installations. The field elements were provided a booklet for developing and forwarding CITA proposals to the Department of the Army. More than 3,000 functions are now carried in the CITA inventory, and the program is expected to expand during fiscal years 1975 and 1976.

Plans developed over the past few years to improve computer support for personnel and manpower managers came to fruition during 1974. In Project 70X, the Army replaced nine IBM and Control Data Corporation computers located at three sites in the District of Columbia and Virginia with six large UNIVAC 1108 computer systems at the Military Personnel Center. Subsequent phases of the plan will see two older computers replaced by two UNIVAC 1108 systems. The computers support the enlisted, officer, and civilian data bases, which produce on a monthly basis 2,000 different reports, 68,000 responses to remote terminal queries, and 50,000 personnel record summaries. The data bases are maintained through a monthly average of 6.5 million change transactions. The bulk of converting old computer programs to new ones was completed between May 1973 and 1 July 1974 at a cost of over forty-three man-years.

U.S. Army Forces Command and U.S. Army Training and Doctrine Command took part in a test designed to establish major command participation in the development of the Army Program Objective Memorandum (POM).[1] The test commands developed three-year resource programs, which were contained in a Resource Allocation Document (RAD). The RAD's were submitted to the Department of the Army for review, and some elements were incorporated into the Army POM. The success of the experiment led to a decision to make programming in the field a part of the Army's Planning, Programming, and Budgeting System (PPBS). To this end, the best characteristics of the RAD and the Budget and Manpower Guidance document were combined to form the Program and Budget Guidance (PBG) document. Program and budget guidance for the POM will be provided for an additional year beyond the budget year to six commands—U.S. Army Training and Doctrine Command; U.S. Army Forces Command; U.S. Army, Europe; U.S. Army Health Services Command; U.S. Army Communications Command; and U.S. Army Materiel Command.

Also to improve the POM, work continued on the automated

[1] A document that contains the proposed Army portion of the Department of Defense Five-Year Defense Program. It covers the five years subsequent to the year for which the budget is being developed.

Program Optimization and Budget Evaluation (PROBE) System. In the second year of a four-year development program, PROBE will assist in developing staff guidance for the POM, evaluating proposed program variations from the approved Five-Year Defense Program, monitoring budget formulation, determining the effects of new program proposals on the budget, and providing data and reports to analyze information requests throughout the PPBS cycle.

Central to the current POM, which covers fiscal year 1976 through fiscal year 1980, is the management of scarce resources in the post-Vietnam era. The POM emphasizes recruiting to maintain Army strength, keeping materiel and training readiness at a high level, increasing the number of Army combat divisions while reducing headquarters size and strengths, and fully using the Army's Reserve Components in keeping with the total force concept.

The automated Recruit Quota System (REQUEST) is used to allocate and manage over 300,000 training spaces in the Army. Started in August 1972 with a limited number of subscribers, the system has expanded to a network of 120 terminals, including the Armed Forces Examining and Entrance stations, U.S. Army Reception stations, U.S. Army Recruiting Command and its regional commands, Training and Doctrine Command, Forces Command, and Department of the Army. Before 1972 the Army managed training spaces by handposting, which was time-consuming but adequate as long as the Army determined what training a new enlisted man would receive. For the volunteer Army, however, with choice of job and training as part of an enlistment option, the recruiter and guidance counselor must know quickly what training courses are open to reserve space for his prospective recruit. The REQUEST data base supplies this information within minutes.

In recent years Army managers have looked upon word processing techniques as a means of producing written communications with speed, accuracy, and economy. During fiscal year 1974 the Army made The Adjutant General responsible for the centralized management of word processing. CSM 73–1–99, dated 6 September 1973, provides The Adjutant General with authority to determine how to manage, standardize, and integrate word processing at various levels in the Army. In November 1973 a Word Processing Branch was created in the Directorate of Administrative Management of the U.S. Army Adjutant General Center to manage the Army word processing program. AR 340–8, published 1 April

1974, outlines the program. It requires documentation from organizations requesting word processing and also guides managers in determining economic feasibility, equipment requirements, personnel requirements, and alternative word processing systems.

Increasing information requirements, the growth of computer printouts, and the advent of modern technology capable of rapidly creating and reproducing paper documents have led the Army to seek better and less expensive alternatives to paper systems for recording, communicating, storing, and retrieving information. In April 1973, The Adjutant General expressed concern to the Chief of Staff that the Army's management of document and information miniaturization was inadequate. Management methods and controls did not encompass all the microform systems and projects in the Army. Organizations were proceeding on their own, and their disparate miniaturization programs were not compatible. Micrographics offered cost savings and benefits higher than the Army was achieving. Approving the recommendation of The Adjutant General, the Chief of Staff designated him as the Army program manager for microforms and document/information miniaturization. The Army microforms program went into effect on 1 November 1973, with the establishment of a microforms management element within the U.S. Army Adjutant General Center.

The program's five primary objectives are to (1) develop better and less costly alternatives to paper systems; (2) reduce the amount of paper generated and retained in the Army; (3) develop microform systems that meet user requirements; (4) promote compatible microform systems and establish necessary standardization; and (5) take maximum advantage of microform technology. Since the program began, forty-nine microform proposals have been evaluated, over 350 requests for technological advice and systems development guidance have been processed, and organizations using microforms have saved over $108,000.

In an Army-wide inventory of microform systems and equipment, over $35 million of microform equipment was reported. An evaluation of the reports and examination of alternate sources, however, revealed that costs were more than double this figure. The inventory indicated a considerable lack of knowledge about micrographics within the Army, even among personnel involved in microforms. An Army microforms seminar was held in Boston on 9 May 1974 to help bridge this knowledge gap and to develop concepts for both short- and long-range training in micrographics.

Of the many systems under development in the Army micro-

forms program, two are particularly noteworthy. The first involves the conversion of computer paper, estimated at 200 million pages annually, to microform at forty-two BASOPS installations. The other has to do with the conversion of Headquarters, Department of the Army, official military personnel files to microfiche. This project is named RAM_2, for Records Administration in Microform Mode. Under the auspices of The Adjutant General, a prototype test was conducted from 4 September 1973 to 25 January 1974, with additional testing, data gathering, and records conversion continuing through the end of the fiscal year.

Budget and Funds

The Army's budget request for fiscal year 1974 totaled $22,593.1 million in total obligation authority (TOA). Following reviews by the Office of the Secretary of Defense and the Office of Management and Budget, the President requested $21,047.1 million for the Army, and Congress appropriated $20,180 million. The Second Supplemental Appropriations bill for fiscal year 1974 and reprogramming approved by Congress increased the Army's TOA to $21,654.2 million. *Table 2* and *Chart 1* trace the chronological development of the fiscal year 1974 budget and compare budget authorizations for selected years in the past.

Financial Management

A number of changes in Operation and Maintenance, Army (OMA), budgeting procedures were made during the past year to simplify the management of this major account, reduce reporting requirements, and improve the budgeting relationship between field commands and Headquarters, Department of the Army.

Three major changes were incorporated into the Program and Budget Guidance (PBG) procedure. The PBG document now reflects the most recent data on field units. Funding changes are recorded whenever manpower changes occur. As noted earlier, program and budget guidance is now provided for an additional year beyond the budget year.

In work load reporting, data required from the major commands for the fiscal year 1974 budget execution review was again reduced—this time by about 80 percent. Data for fiscal year 1975 command operating budgets was similarly reduced. As noted in last year's report, additional relief from burdensome reporting requirements is expected when the Data Element Management/Accounting Reporting (DELMAR) system becomes operational.

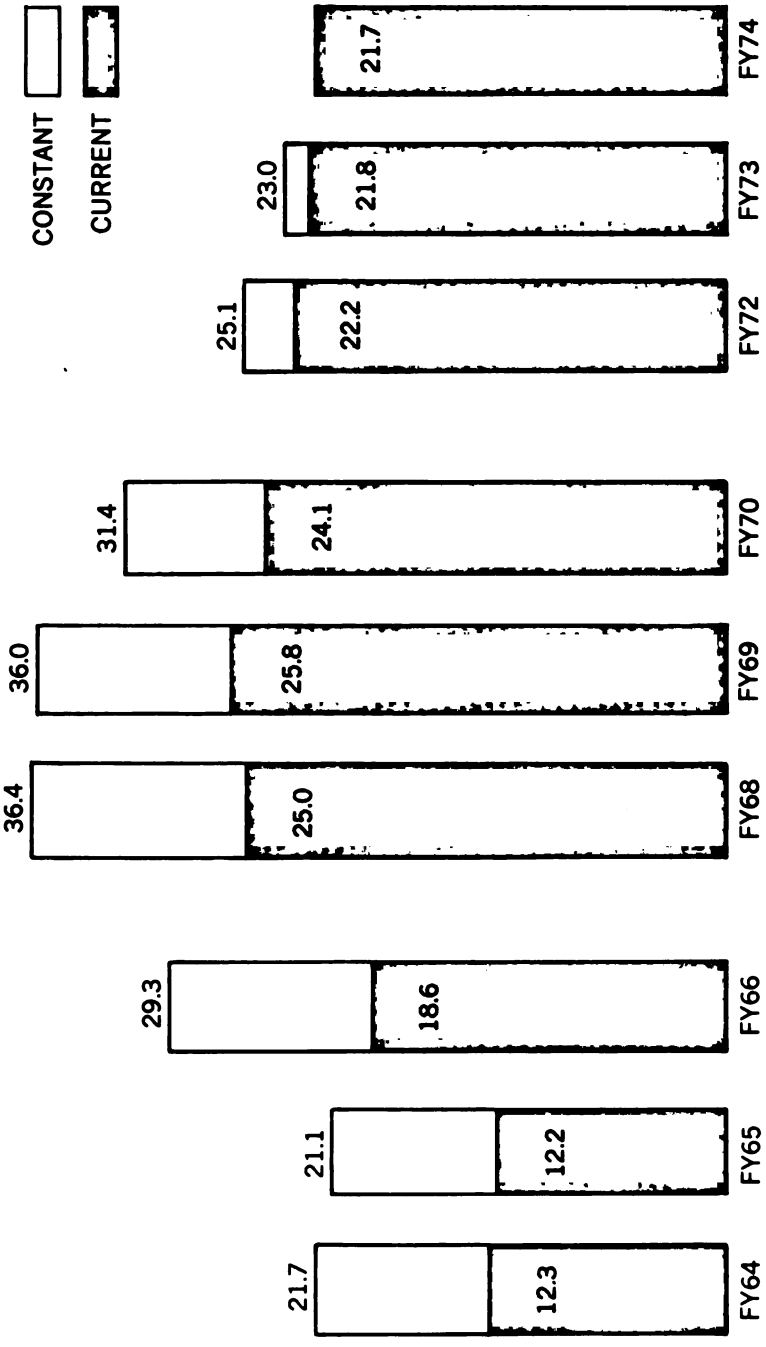
TABLE 2—CHRONOLOGY OF THE FISCAL YEAR 1974 DIRECT BUDGET PLAN (TOA)

(In millions of dollars)

Appropriation	DA Submission to OSD	Amended President's Budget	Budget Approved by Congress	Supplemental Approved by Congress	Reprogramming Approved by Congress	Total Approved by Congress
Military Personnel, Army	7,328.8	7,211.4	7,110.0	626.1	—	7,736.0
Reserve Personnel, Army	491.5	463.7	452.4	23.1	— 10.0	465.5
National Guard Personnel, Army	608.8	587.1	555.9	69.6	—	625.5
Operation & Maintenance, Army	6,784.9	6,401.7	6,214.7	376.5	— 3.3	6,587.9
Operation & Maintenance, Army Reserve	246.5	260.4	253.9	—	—	253.9
Operation & Maintenance, Army National Guard	570.6	540.0	524.4	.8	—	525.2
National Board for the Promotion of Rifle Practice	.1	.2	.2	—	—	.2
Aircraft Procurement, Army	233.3	181.0	164.8	16.0	—	180.8
Missile Procurement, Army	694.5	569.5	557.1	76.6	— 3.0	630.7
Procurement of Weapons & Tracked Combat Vehicles, Army	383.3	238.0	229.3	71.1	—	300.4
Procurement of Ammunition, Army	1,338.9	1,138.9	940.4	150.0	— 2.0	1,088.4
Other Procurement, Army	787.0	551.9	506.2	35.5	— .9	540.8
Research, Development, Test, and Evaluation, Army	2,153.2	2,095.2	1,915.6	26.9	— .2	1,942.3
Subtotal, excluding Construction	(21,621.5)	(20,239.0)	(19,424.8)	(1,472.2)	(— 19.4)	(20,877.6)
Military Construction, Army	895.7	732.2	679.3	—	+ 21.4	700.7
Military Construction, Army Reserve	40.7	40.7	40.7	—	—	40.7
Military Construction, Army National Guard	35.2	35.2	35.2	—	—	35.2
Subtotal, Construction Accounts	(971.6)	(808.1)	(755.2)	—	(+ 21.4)	(776.6)
Total Direct Budget Plan (TOA)	22,593.1	21,047.1	20,180.0	1,472.2	+ 2.0	21,654.2

CHART 1—ARMY BUDGET FOR SELECTED FISCAL YEARS BETWEEN 1964 AND 1974

(TOA in billions)



Testing is under way and should be completed in the coming fiscal year.

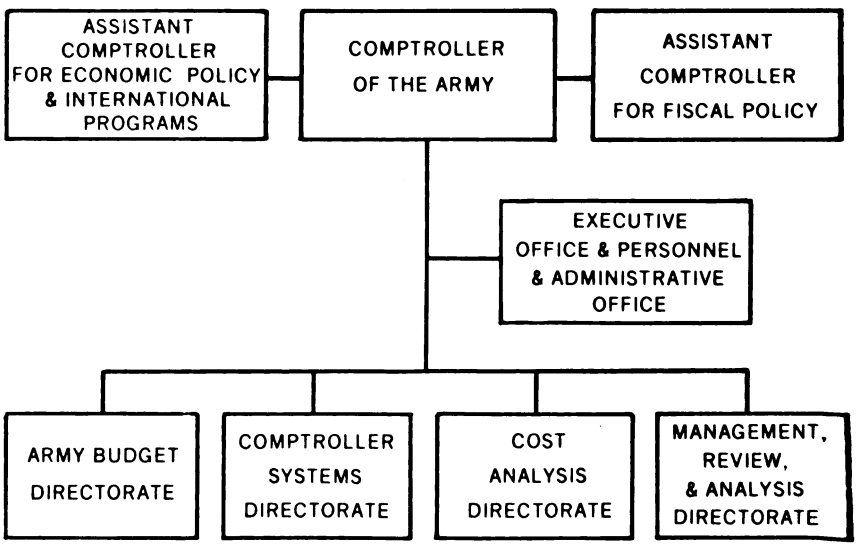
Progress continued on the development of the Comptroller of the Army data base. One of the three associated modules was tested in the last quarter of the fiscal year and is expected to be ready to accept installation expenditure data by late fiscal year 1975. Design and development of the remaining two modules of the data base was started this year.

The automated Civilian Budgeting System became operational. It provides an automatic update of civilian end strengths, man years, and associated dollars. It can also handle increased costs such as pay raises, health benefits, and extra pay.

The Army Force Cost Information System was revised twice during fiscal year 1974. The first revision in November 1973 incorporated the new military pay rates of 1 October 1973 into the Military Personnel, Army, computations of the system and its associated 2000-unit table of organization and equipment (TOE) data bank. The second revision in May 1974 involved the review and updating of all computation factors to produce costs in fiscal year 1974 constant dollars.

Public Law 93–238, signed by the President on 2 January 1974, called for phasing out the Uniformed Services Savings Deposit

CHART 2—OFFICE OF THE COMPTROLLER OF THE ARMY BEFORE 20 MAY 1974

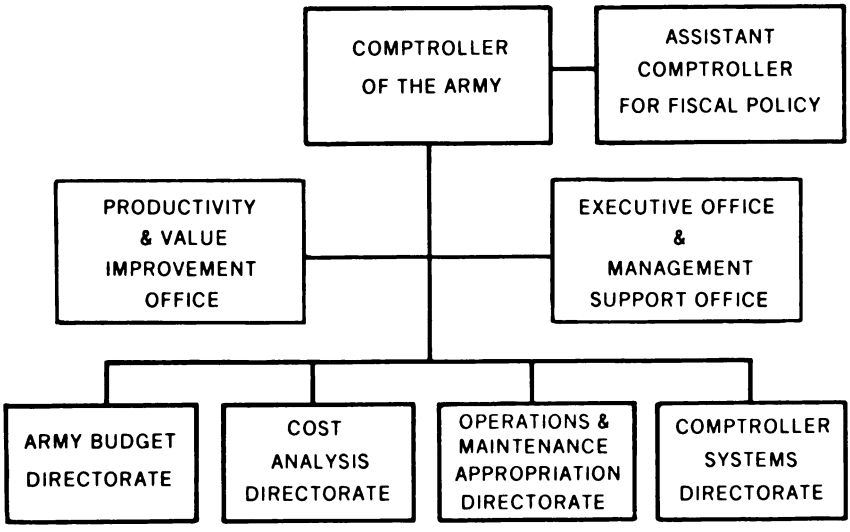


Program by 30 June 1974. The program was terminated on schedule, except for the accounts of servicemen carried as missing in the Vietnam conflict. Also discontinued, effective 19 November 1973, was the use of military payment certificates in Korea. They were replaced by U.S. currency.

The 20 May 1974 reorganization of the Army staff affected the Office, Comptroller of the Army (OCA), and the responsibility of staff agencies for budget and financial management. Previous fiscal year 1974 manpower reductions had reduced OCA authorized strength from 371 to 319, and the May reorganization lowered it to 285. The accompanying charts show OCA's structure before and after the May reorganization, and the following narrative highlights the principal changes.

The Directorate of Management, Review, and Analysis was eliminated. Its functional responsibilities for broad Army management policy, organization studies, and reports control were transferred to the newly established Director of the Army Staff. The Audit Compliance Office and control of the Army Audit Agency were transferred to The Inspector General and Auditor General; the statistical clearance and Army Status Report functions were given to The Adjutant General. The Office of the Assistant Comp-

CHART 3—OFFICE OF THE COMPTROLLER OF THE ARMY
20 MAY 1974



troller for Economic Policy and International Programs was also eliminated. Its functions were absorbed by other offices in OCA.

A Productivity and Value Improvement Office was established to manage the DA Management, Review, and Improvement Program and to oversee Army programs relating to productivity, value engineering, and value improvement techniques and standards. This office also provides technical advice and guidance to the DCSPER on the Comptroller Civilian Career Program. The Directorate of Operations and Maintenance, formerly under the Director of Army Budget, moved to OCA and took over responsibility for Base Operations (Program 11), Administration and Associated Activities (Program 9), and manpower pricing from ODCSLOG, ODCSPER, and OACSFOR, respectively.

Departmental accounting, which deals with maintaining the status of Army funds, receiving and summarizing accounting data from Army activities worldwide, and submitting consolidated reports to the Army staff and other government agencies, was moved to the U.S. Army Finance and Accounting Center (USAFAC) on 15 February 1974. On the same date USAFAC also assumed responsibility for Operating Agency 32, a fund control activity that budgets and finances several commands and agencies which report directly to Headquarters, Department of the Army, on financial matters instead of through major commands.

Internal Audit

As noted in Chapter IV, The Inspector General and Auditor General was assigned responsibility for audits, the Army's decentralized internal review program, and supervision of the U.S. Army Audit Agency. Within the Office of The Inspector General and the Auditor General, the Audit Compliance and Inspection Evaluation Division oversees audit compliance. It develops Army policy on audit compliance and internal review, maintains liaison with the General Accounting Office and the Office of the Deputy Secretary of Defense for Audit Operations, and evaluates and follows up IG inspection reports. The Coordination and Staff Action Division coordinates inspections and audits and determines priorities and jurisdiction for both.

During fiscal year 1974, the U.S. Army Audit Agency issued over 466 reports with some 1,260 statements of conditions and recommendations pertaining to appropriated fund activities. The estimated savings from acting on these recommendations were approximately $360 million. In addition, the agency issued 253 nonappropriated fund audit reports containing 789 statements of

conditions and recommendations. All the Army's open messes were audited in fiscal year 1974, 75 percent by Army auditors and 25 percent by public accountants. To accomplish this work load, Army Audit Agency had an average authorized strength of 965; 798 were professional auditors and 167 were administrative personnel.

An automatic data processing retrieval and analyzer system, known as the Army Uniform Data Inquiry Technique (AUDIT), was fielded on 1 December 1973. AUDIT features an easy-to-use specification language and COBOL implementing software. It enables the manager-auditor to retrieve selected information from computer files inexpensively and expeditiously. It features a simple, standard method for performing mathematical computations, requesting routine statistics, and generating reports from machine-readable data.

IX. Logistics

Logistics plays a vital role in maintaining a professional Army in wartime and in peacetime. Compared to the Army of ten years ago, today's Army is more complex, and the requirements to support it are necessarily more sophisticated and involved. In logistics the Army's objective is to provide better support at relatively low cost, and to do this it must take full advantage of modern technology.

The extensive resupply of equipment to Israel in the fall of 1973 is an example of the responsiveness of the logistical system and of the capabilities for emergency air and sea lift. Logistical support is seldom dramatic and is often taken for granted. Nevertheless, innovations of value and interest are coming about in logistics, including a revised direct support system and a new method of selecting aircraft for depot maintenance, both of which can save many dollars and man-hours.

This chapter describes fiscal year 1974 highlights of these and other operations related to maintenance, supply, transportation, aviation logistics, military assistance, logistics systems development, and logistics management information systems.

Logistics Management

The Logistics Studies Steering Group (LSSG), formerly the Logistics System Steering Group, met on 16 and 17 April 1974 and reviewed 102 proposed logistic studies to be started or continued in fiscal year 1975. The group identified possible duplication, selected studies to be included in the Army's Logistics System Master Plan (LOGMAP), and screened all proposals before review by the Army Study Review Council. The work of the group helps to simplify the study review process and to correlate the development of the Army study program and the budget cycle.

The sixth meeting of the Army Logistics Policy Council (ALPC), also held in April 1974, covered items of major importance affecting the operation of the logistics system. Because of recent reorganizations at Headquarters, Department of the Army, and within major commands, the organization of the council has been changed considerably and the ALPC Charter is being revised.

Early in the fiscal year LOGMAP was published for the first

time as a DA Pamphlet series. Four pamphlets were prepared. Two of these were later revamped to reflect improvements in techniques for displaying data and revisions in LOGMAP objectives that were developed during a comprehensive Army-wide review of LOGMAP.

The Army continued working with the Navy and Air Force to standardize policy and procedures for the logistic support of defense communications equipment. A working group composed of representatives of the Army Materiel Command, the Naval Electronics Command, and the Air Force Logistics Command developed a proposed joint regulatory document that guides logistic support planning by any service designated as the executive agent or a participating service for the acquisition and development of shared communication systems. This document should lead to less duplication and to better planning and execution of logistics support.

Cooperation in logistics took place on several other fronts. During the year the Army submitted to the Office of the Secretary of Defense a proposed revision to the Department of Defense Integrated Logistic Support Planning Guide. The objectives of this revision are to increase emphasis on supportability in the design of new or improved equipment and to make it easier to assess matters of logistic support during the materiel acquisition process. The Army also participated in a study sponsored by the Office of the Secretary of Defense on ways to better manage the support costs of weapons systems. The objective of this study is to find ways to make better life cycle cost estimates for use in the weapons systems acquisition decision process. A joint regulation affecting the Interservice/Interdepartmental/Interagency Support Program was published. It requires cost analyses of savings, provides a system for resolving differences among the services, and revises the method of reporting at approximately 70 percent less cost. In cooperation with the other military services and the Joint Chiefs of Staff, the Army revised the joint logistics policy for pre-D-day materiel distribution and established minimum acceptable levels of prepositioned war reserves to support the operations plans of the unified commands. Through more than 2,500 agreements, the Army during the past year provided more than $204 million in support to other services and agencies.

Logistics Systems Development

During the past year the Army Materiel Command's (AMC) Five-Year ADP Program made progress in two areas. Portions of the AMC Logistics Program Hardcore, Automated, were extended to the Army Missile Command and approval for extension to the

Army Troop Support Command was granted. The System Project for Electronic Equipment at Depots Extended (SPEEDEX) was expanded to all AMC depots and the follow-on systems were evaluated and found acceptable.

The Division Logistics System (DLOGS), which is now used by all Regular Army divisions except the 1st Cavalry and the 2d Armored Divisions, was refined over the past year. Installation of DLOGS was started in eighteen Reserve Component support brigades and completed in ten of them.

Simulation and Gaming Methods for Analysis of Logistics, a computerized system of models, was applied twice last year to the war plans of U.S. Army, Europe (USAREUR). The results were useful in revising USAREUR war plans and in justifying a program change request to fund an updated concept for a wartime line of communications in Europe.

Within the Army's Logistics Management Information Systems (LOGMIS), a number of advances were made in the subsystems that comprise the Integrated Transportation Management Information System. The Standard Port System module of the Terminal Operations and Movements Management System was installed at Rotterdam and Bremerhaven and will be extended to several ports in the Far East during the coming year. The Standard Port System furnishes users with machine-produced documentation for receipt planning, inventory accounting, movement, and control of cargo. Development of a general functional system requirement for the Administrative Use Vehicle Management Information System (AUVMIS) was completed, and work was begun on the supporting economic analysis. The AUVMIS will provide a data base for the development of budgets and plans for operating and maintaining the vehicle fleet.

As part of the Weapons Management Improvement Program, specifications were completed for instituting throughout the Department of Defense a standard system for controlling small arms. Based on the Army's Small Arms Information Registry System, which was suspended in December 1973 because of a lack of funds, the new system will give investigative agencies the identity of the last accountable activity having a specific, serially numbered small arm within seventy-two hours. The Army will maintain the DOD Central Registry on small arms on an IBM 360/65 computer located at the U.S. Army Armament Command, Rock Island, Illinois.

In other developments, functional requirements for a Selected Item Management System—Expanded were established, and work

on a supporting economic analysis for the Standard Army Maintenance System was begun. Also, four changes were incorporated into the operational units of the Standard Army Ammunition System within USAREUR and USARPAC. These changes considerably improved the system's capability to provide central management of command ammunition assets.

Materiel Maintenance

The end of American involvement in the Vietnam War made it no longer necessary to perform depot maintenance in Japan, Okinawa, and Korea. Depot maintenance at these locations ceased during fiscal year 1974, and the facilities reverted to general support maintenance.

Completed in March 1974 was the study noted in last year's report on the need for depot maintenance facilities in Europe to support the Army wholesale supply system. It concluded that labor savings once realized in USAREUR no longer existed. The USAREUR depot maintenance program for fiscal year 1975 will therefore be reduced. More than $10 million, approximately 25 percent of the funding originally projected for the program, will be transferred to support USAREUR direct and general support maintenance activities. One of the six USAREUR activities performing depot maintenance was eliminated on 30 June 1974, and another is scheduled to close by 31 December 1974. When the cost would be less, items will be returned to CONUS for depot maintenance. Next year the residual depot maintenance work load in USAREUR will be reexamined to determine if all depot maintenance operations in USAREUR should be ended.

The Depot Maintenance Cost Accounting and Production Reporting System is operational at all Army Materiel Command depots in CONUS. Work continued on expanding the capability of the depot maintenance cost model that forecast costs under varying force levels and readiness objectives and on relating these costs to work load and capacity.

Aviation Logistics

Begun in fiscal year 1973, the decentralization of aviation logistics within Headquarters, Department of the Army, continued, and aviation logistics spaces were reduced from twenty-four to six. On 20 May 1974, the Aviation Office, Directorate of Supply and Maintenance, Office of the Deputy Chief of Staff for Logistics, was

disestablished. Aviation maintenance and supply functions were retained within the Directorate of Supply and Maintenance, and a separate Aviation Logistics Office was established. Reporting directly to the Deputy Chief of Staff for Logistics, this office controls the entire aviation logistics program.

The second Worldwide Aviation Logistics Conference was held at Headquarters, U.S. Army Aviations Systems Command, from 13 to 17 May 1974. Attending were representatives from all Army commands and from Department of Defense activities that are authorized Army aircraft. Conferees made recommendations that could save as much as $1.7 million annually in aviation logistics costs and developed programs for managing the distribution of aircraft. They also agreed that conferences, to be hosted by the Army Materiel Command, should be held annually.

As recommended in a recent study, the U.S. Army Materiel Command and the U.S. Army Training and Doctrine Command began to combine direct support and general support maintenance units. This consolidation should decrease personnel and equipment requirements and improve maintenance service.

During fiscal year 1974 the Army changed its criteria for selecting Army aircraft for depot overhaul. Before, maintenance was scheduled on the basis of accumulated flying hours or the time elapsed since new or the last overhaul. Called on condition maintenance (OCM), the criterion is now the condition of the aircraft as determined through on-site inspections made by aircraft condition evaluation teams. Those aircraft in most need of repair are then scheduled for depot maintenance first.

On 20 May 1974 the U.S. Army Agency for Aviation Safety (USAAAVS) completed two years of research on aviation accidents and gained considerable understanding of the problem of pilot error. In the past the Army had relied on preconceived notions of what happened and why it happened, and its analyses were little more than a tabulation of accident frequency. The USAAAVS research indicated that pilot errors were caused by overloads on a pilot's ability resulting from out-of-tolerance conditions among eight basic aviation system elements. The application of factor analysis revealed that mistakes in nine basic flight skill areas were involved in 96 percent of all pilot error accidents. Corrective measures reduced the number of aircraft accidents, as indicated in the accompanying table. To reduce pilot error accidents further, USAAAVS is continuing its research in the nine basic flight skill areas.

Fiscal Year	Average Number of Aviators	Total Aircraft Accidents	Flight Hours	Accident Rate (per 100,000 flying hours)	Fatalities
1958	5,611	633	1,221,855	54.26	44
1962	7,099	418	1,425,170	29.33	69
1966	9,778	497	2,485,591	20.00	186
1970	23,856	1,056	6,273,246	16.83	538
1973	17,945	125	1,686,791	7.41	71
1974	16,470	116	1,638,083	7.08[a]	24

[a] Combined rate for active Army, Army National Guard, and Army Reserve. Active Army rate was 7.08. Rates for 1973 and prior years were active Army only.

The Floating Army Maintenance Facility (FAMF) resumed depot maintenance operations on aircraft engines and components at Corpus Christi, Texas, in October 1973, following a high-priority project for the Defense Nuclear Agency (DNA). Damage sustained to the FAMF while on the DNA project prevented the vessel from meeting the sixty-day readiness status required for its primary contingency mission. Because of the high cost for repairs, the Army Audit Agency has recommended that the requirement to retain the ship be reviewed. At the close of the fiscal year the future of the FAMF was still in doubt.

In other aviation logistics matters, the backlog of aircraft modification work orders continued to drop—down from 1.1 million man-hours to about .6 million, and plans were completed to field test next year a concept for the scheduled inspection of helicopters (Project Inspect). Also, the Loglift II and III and air cavalry combat brigade test exercises were canceled because of the uncertainty of fuel availability.

Supply and Depot Operations and Management

Army Stock Fund obligations during fiscal year 1974 amounted to $3.2 billion in support of $2.9 billion in sales. Obligations were $.5 billion above fiscal year 1973 levels. The higher rate reflected the replenishment of inventories depleted during the Vietnam conflict; longer procurement lead times due to delays in the delivery of supplies caused by materiel and energy shortages; rising materiel costs; the additional repair parts required for an enlarged depot rebuild program in the United States; and the use of the Army Stock Fund to purchase nonstandard, nonstocked items which had previously been carried under the Operation and Maintenance, Army (OMA), account. Sales remained steady and satisfied 91 percent of customer demand, as compared with 93 percent last year. They were, however, inhibited by longer production and shipping times, which increased the value of back orders by 34 percent.

The management of back orders was carried out effectively through the Back Order Validation (BOV) Program, a quarterly

validation and reconciliation of high-priority requisitions over thirty days old and other requisitions over seventy-five days old. During fiscal year 1974 over 80,000 requisitions valued at some $200 million were canceled under the program. This represented approximately 8 percent of the requisitions referred for validation.

From September 1973 to March 1974, the Army Audit Agency (AAA) surveyed selected depot and accounting activities in the United States and overseas, uncovered problems in virtually every area of the Care of Supplies in Storage (COSIS) program, and concluded that better management attention was needed. The AAA report noted that neither the Deputy Chief of Staff for Logistics nor the Army Materiel Command had sufficient staff personnel to oversee the program adequately. To help correct the deficiencies, a COSIS program manager was added to the Office, Deputy Chief of Staff for Logistics.

The current edition of the Mobilization Reserve Stockage List (MORSL) was published in August 1973 with added detail. The new MORSL includes items authorized for the Mediterranean and the Middle East and for each subcommand within U.S. Army, Pacific. In later editions, equipment for allied countries will be deleted, and there will be a separate listing of components of major systems such as radios and armament.

The obligational authority for secondary items under the five Army procurement appropriations was $183 million for fiscal year 1974, as compared to $125 million for the year before. Parts and assemblies returned by users were valued at $600 million, almost $200 million less than the 1973 figure. Current return levels reflect the amount that can be reasonably expected from normal wear and tear in peacetime.

In March 1974, the Department of Defense tasked the military departments to develop a joint plan for establishing by June 1977 integrated materiel management of all nonconsumable end items and depot repairable components. Approximately 547,000 items are involved, of which 47,000 are already dual managed. The plan should be ready for consideration early next year.

As directed last year, the Army transferred most of its property disposal operations to the Defense Supply Agency. It has, however, retained some disposal functions, among them: the demilitarization of condemned, obsolete, and surplus ammunition, small arms weapons, explosives, and other dangerous articles; the disposal of surplus personal property generated by the civil works program of the U.S. Army Corps of Engineers; the donation of combat materiel for public displays; the operation of the Pacific Utiliza-

tion and Redistribution Agency, which handles foreign excess personal property; the Exchange/Sale Program; the Precious Metals Recovery Program, and the Lumber and Timber Program, which involves harvesting and selling timber on Army installations.

Army property disposal operations in Vietnam were temporarily withheld from transfer to the Defense Supply Agency because of the high level of activity associated with phasing down military operations. They were later transferred on 27 January 1974. During the seven-month period of fiscal year 1974 when this activity was under Army control, proceeds from the sale of usable property amounted to $32.5 million, and the return on sales, based on original acquisition cost, was 11.2 percent.

Transportation

The downward trend in oversea cargo shipments noted in last year's report continued throughout fiscal year 1974. The Military Sealift Command moved about 5,500,200 measurement tons and the Military Airlift Command carried approximately 58,000 short tons. Under the Airlift Challenge Program, which validates all Army-sponsored cargo shipments of 500 pounds or more designated for airlift within or from the United States, 25,560 shipments weighing 50,937 short tons were diverted from air to land or sea movement. These diversions resulted in a cost avoidance of $37,181,299. With Department of Defense concurrence, the Army sponsored a number of shipments for the Department of State, including twenty-five famine relief vehicles for Ethiopia, 370 tons of structural steel to Bangkok to repair the American Embassy building, and approximately 10,000 metric tons of bagged rice to Cambodia.

About 322,830 Army-sponsored passengers were transported during the year, 322,800 by air and approximately 30 by sea. On 18 February 1974 the Army instituted Port-Call Centralized Assignment Procedure (PORTCAP), a new method for issuing port calls to advanced individual training graduates that should reduce administrative requirements. Under PORTCAP, the U.S. Army Personnel Center will send oversea assignment instructions to both the student's school installation and the Military Traffic Management and Terminal Service (MTMTS). Upon receipt of instructions, MTMTS will reserve a tentative port call date for the student at least two weeks before graduation. The losing installation will acknowledge receiving the date, and, if there is any change in the soldier's status, will cancel the port call reservation.

Travel and transportation entitlements were extended to include members in pay grade E–4 who have over two years' service. Certain transportation entitlements were also made available to members in pay grade E–4 with less than two years' service. In addition, administrative restrictions placed on weight allowances for personal property shipments from Alaska, Hawaii, Puerto Rico, and U.S. territories and possessions were removed, and procedures were established to permit the shipment of certain privately owned vehicles without paying excess costs in advance of shipment.

Two major problems continue to hinder the Army's program to integrate containerization fully into its logistics systems: (1) the offshore discharge of non-self-sustaining containerships, which comprise the major part of the containership fleet, and (2) the lack of an adequate commercial container for shipping ammunition. Regarding the first problem, preliminary testing of existing nonrigid, lighter-than-air craft indicated that their use as cranes would reduce the problems associated with offshore unloading. Regarding the second, a number of parallel efforts were under way to develop restraint systems that will permit the safe and effective use of commercial containers for ammunition shipments. Also, the Army in the Field Container Systems Study, which was noted in last year's report, was completed and the final study report is being prepared.

During the last half of the fiscal year the Army and other Department of Defense components experienced a worldwide container shortage caused by significant increases in exports of commercial cargo, reduced sailing speeds to conserve fuel, and the withdrawal of some container ships during the energy crisis. The problem came to a peak in February when unbooked cargo on the east and west coasts reached 49,000 and 43,000 measurements tons, respectively.

Preparations for the movement of nuclear weapons from the forty-eight inactivated Nike-Hercules sites within the United States to Army depots were especially thorough because of public concern over the possibility of theft by terrorists, a concern expressed in several journals and newspapers, and because of a General Accounting Office report that criticized Army procedures employed in transporting nuclear weapons. The Army Materiel Command prepared the movement plan, guided by a directive from the Vice Chief of Staff. The directive stated that nuclear weapons would be transported by military aircraft whenever possible and that for unavoidable surface movement road convoys would be supported by a surveillance helicopter, which would

check for unauthorized diversions or road obstructions. The convoy would be in constant communication with the surveillance craft and the appropriate Army movement monitor. Movement of the nuclear weapons began on 12 March 1974 and is scheduled for completion early in fiscal year 1975.

The inventory of watercraft continued to decline during fiscal year 1974 to about 1,200 vessels and amphibians, a reflection of the disposal of obsolete and unserviceable craft without new procurement. Meanwhile, the development of a new family of Army watercraft came a step closer to reality with the completion of field testing for the Trans-Hydro Craft study. The study, details of which were described in last year's summary, is now undergoing final review by the Army staff. Some standard craft are being programmed for upgrading and modernization, and the modernization program includes the installation of a new small craft radar.

The Army rail fleet has approximately 11,000 pieces of equipment with an estimated replacement value in excess of $200 million. The age of the equipment ranges from fifteen to thirty years. During the year the Army took several steps to modernize the rail fleet. Procurement of 750 20,000-gallon general purpose tank cars for the Military Traffic Management and Terminal Service interchange fleet was started. A review is under way to determine if the remainder of the interchange fleet's freight cars (box, flat, and tank) should be rebuilt or replaced. A five-year depot maintenance program for diesel electric locomotives is continuing. Meanwhile, the Army was left without mobilization and contingency stocks for rail freight operations overseas when the 40-ton, rolling stock fleet was declared excess.

In other transportation matters, the extension of Military Standard Transportation and Movement Procedures (MILSTAMP) overseas was approved for implementation early in fiscal year 1975, and plans to simplify the applicable Department of Defense regulation were made. Testing of the Direct Inland Transportation to Overseas (DITTO) concept, which would expand the use of scheduled commercial flights for military-sponsored passengers going overseas, was turned down by the Department of Defense.

Facilities and Construction

As a prelude to the reorganization of the Army staff, the functions and responsibilities of the Deputy Chief of Staff for Logistics in the area of facilities, construction, and stationing were transferred to the Chief of Engineers on 14 January 1974. The former Director of Installations became the Assistant Chief of Engineers,

and he and his staff remained essentially intact performing the same functions.

For fiscal year 1974 Congress approved a Military Construction, Army, budget of $679.3 million, as compared to the Army request for $895.7 million and the President's amended budget request for $732.2 million. The amount budgeted included $406 million for replacement and modernization of existing Army facilities; $6.5 million for projects identified with Army reorganizations, base closures, and activity realignments announced in 1973; and $15 million for minor construction projects. An additional $21.4 million in reprogrammed funds brought the total available for construction to $700.7 million, as contrasted to last year's $586.6 million.

During fiscal year 1974 construction was virtually completed on projects costing $92 million in the Army Materiel Command's Production Base Support program for modernizing and expanding ammunition production facilities. Meanwhile the Army awarded another $41.6 million in new construction contracts and grappled with the complexities of engineering design, complicated by expanding technology in the manufacture of ammunition. Because delays in preparing and in changing design criteria have plagued the program, the Corps of Engineers has provided additional management and engineering support.

During fiscal year 1974, several hospital construction projects, some related to meeting accreditation standards, were submitted to Congress for approval. These included a new hospital at Redstone Arsenal, Alabama; clinic additions to the hospitals at Fort Leavenworth and Fort Riley, Kansas; and electrical and mechanical improvements for hospitals at Carlisle Barracks, Pennsylvania; Fort Belvoir, Virginia; Fort Benning, Georgia; Fort Bliss, Texas; Fort Bragg, North Carolina; Fort Devens, Massachusetts; Fort Jackson, South Carolina; Fort Leonard Wood, Missouri. Alterations to the 97th General Hospital in Frankfurt, Germany, were also proposed. Meanwhile construction progressed on the new seven-story, 1.1-million-square-foot, 1,280-bed Walter Reed Hospital. Now about 27 percent complete, this sophisticated facility should be finished in June 1976 at an estimated cost of $130 million.

The Army provided construction support to many organizations, among them the Air Force, the Navy, the Aeronautics and Space Administration, the Coast Guard, the Postal Service, various Department of Defense agencies, the Trust Territory of the Pacific Islands, national cemeteries, and several foreign governments. Contracts totaled $301 million, and the Air Force program alone exceeded $176 million.

Concentrating on a program to collocate recruiting facilities in support of the all-volunteer force, the Corps of Engineers, as executive agent, completed over 1,200 actions during 1974, some in cooperation with the General Services Administration. Of these, 403 were projects to modernize or renovate existing facilities. The balance consisted of leasing arrangements for 269 new offices and 541 expanded or relocated offices. At year's end, there were 5,415 collocated facilities in 2,495 locations. The urgency of previous years was tempered somewhat during 1974, and the program was aimed more toward standard budget cycles.

The Army announced a number of planned changes in the status of Army installations. Many of these were an outgrowth of Project Concise, started by the Chief of Staff in May 1973 to reduce the size and number of installations. Fort Hancock and Highlands Army Air Defense Site, New Jersey, Fort Lawton, Washington, Fort MacArthur, California, and Fort Tilden, New York, will be closed during fiscal year 1975. Fort Hancock and all of Fort Tilden, except the Army Reserve Center, will be transferred to the Department of the Interior under provisions of PL 92–592. Those portions of Fort MacArthur, Fort Lawton, and the Highlands Army Air Defense Site not needed by the Department of Defense will be reported to the General Services Administration for disposal. The closure of Military Ocean Terminal, Brooklyn, which was originally announced in fiscal year 1965, was reconfirmed.

Among the previously approved closures, the Army inactivated the Charleston Army Depot, South Carolina; Fort Wolters, Texas; and Valley Forge General Hospital, Pennsylvania. The mission of the Atlanta Army Depot was phased out, and the installation was redesignated Fort Gillem, a subinstallation of Fort McPherson, Georgia. Hunter Army Airfield, a subinstallation of Fort Stewart, Georgia, was reactivated to accommodate additional units planned for stationing at the Stewart-Hunter complex.

At the end of fiscal year 1974, the Army controlled 12,732,484 acres of land for military use worldwide. These holdings had an acquisition cost, including improvements, of over $12,834,981,000. During the year the Army disposed of 30,450 acres of land and improvements having an acquisition cost of $44,220,639. It also reported 14,955 acres of improved land, with an acquisition cost of $36,465,584, to the General Services Administration as excess.

Acquisitions amounted to 156,689 acres at a cost of $91,184,809, most of which (approximately 95 percent) were for civil works. Some 4,441 acres costing $5,947,442 were acquired for the Air Force, Atomic Energy Commission, National Aeronautics and Space Administration, National Science Foundation, and the Department of

the Interior. Also acquired were the Felsenthal Wildlife Refuge in Arkansas and Lake Waurika in Oklahoma. Relocation assistance payments of $5,252,013 were made to 3,161 applicants primarily for civil works acquisitions.

PL 93–166, enacted on 29 November 1973, authorized the Army to purchase 71,159 acres of leased, privately owned land that forms part of the White Sands Missile Range and to resolve 210 mining claims associated with the range. Approximately 61,000 acres of this land has been acquired. The range also has 341,952 acres of state-owned land under lease and 1,312,392 acres of land withdrawn from the public domain. The Army plans to acquire the leased, state-owned acreage either by purchase or by exchange for government-owned lands.

Concern about physical security was apparent throughout fiscal year 1974. After a soldier misappropriated a helicopter and landed on the White House lawn, the Army took several measures to improve the security of Army aircraft and vehicles. In Europe it began an extensive four-year program to upgrade the physical security of its ammunition storage areas. The first procurement run for the Joint-Services Interior Intrusion Detection System (J-SIIDS) was completed, and final testing of the system was conducted by the Test and Evaluation Command. Army Materiel Command began to expand the use of J-SIIDS, which had been developed primarily for the protection of stored arms and ammunition. For the Army National Guard Intrusion Detection System, which before June 1971 covered only 246 of the Guard's 4,333 arms vaults and ammunition storage facilities, installation contracts have been awarded for 3,365 additional vaults. Some $3.1 million in federal funds have been spent on this program, which will be virtually completed by the end of fiscal year 1975.

Development continued on the Integrated Facilites System, an automated information system for the life-cycle management of real property from conception through design, construction, operation, maintenance, and disposal. The U.S. Army Computer Systems Command prepared a total of eighty-nine computer programs for the system. Testing of the programs began in March and will continue throughout most of next year.

The Army entered into a six-year agreement with the Alyeska Pipeline Service Company permitting the latter to lease certain available facilities at Fort Wainwright, Alaska, in support of the construction of the Alaska oil pipeline. Alyeska will pay an annual fee of $1,250,000 for the use of the facilities.

Support of Operations in Europe

Since 1968 the U.S. share of NATO infrastructure has been authorized and funded through the Military Construction, Army (MCA), authorization and appropriations bills. The fiscal year 1974 budget provided for $80 million in authorizations. To meet the unbudgeted cost of dollar devaluation, an additional $21 million in authorizations was provided through the Secretary of the Army's authority under Section 603, PL 91–511, and prior year military construction authorization bills. Funding authority for fiscal year 1974 totaled $101 million, including $40 million in new obligational authority, $36 million transferred from unused prior year funds (PL 93–194), and $25 million in recoupments from prefinancing of prior year items. Obligations during the year were $87.4 million and unobligated funds as of 30 June 1974 amounted to $15 million. Recoupment for the year reached the programmed figure of $26 million.

The Office of the Deputy Chief of Staff for Logistics helped to develop U.S. positions on Mutual and Balanced Force Reductions negotiations between NATO and Warsaw Pact Nations by verifying the logistic feasibility of proposed reduction packages and the adequacy of impact statements related to logistic reductions. By the end of the fiscal year negotiations had not progressed beyond a discussion of basic assumptions. Detailed reduction packages are scheduled to be tabled early in fiscal year 1975.

In NATO matters, several activities were taking place. The NATO Land Force Logistics Working Party held its third annual meeting in Brussels during 22–26 April 1974. A number of projects were selected for study and development, specific tasks assigned, and goals established for the standardization of logistic procedures. Priority was given to the development of updated ammunition consumption rates. The Secretary of Defense established a Department of Defense NATO Task Force in July 1973 to implement his proposals to the NATO Ministerial Conference the previous spring. A major topic at the conference was logistic support of U.S. forces in Europe by NATO allies. In this regard, logisticians from the United States and the Federal Republic of Germany met twice during the year to discuss general agreements for logistic support. The thirteenth in this series of Logistics Staff Talks is scheduled for November 1974.

Support of Operations in the Far East

The approved Army military construction program for the Republic of Vietnam through fiscal year 1974 was $939.15 million.

As of 30 June 1974, the work in place totaled $922.080 million. The unobligated balance reported for withdrawal as of 30 June 1974 was $6.084 million. As directed by Congress and the Secretary of Defense, new construction and new obligations in support of construction in the Republic of Vietnam will be carried out with other Military Construction, Army, funds, effective 1 July 1974. Construction appropriations for Army facilities in Thailand was $116.474 million. As of 30 June 1974, completed construction came to $114.921 million, with an additional $1.054 million to be spent.

A midyear review of U.S. Army support to the Army of the Republic of Vietnam was held at the International Logistics Center, New Cumberland, Pennsylvania, from 19 February to 4 March 1974, and funding adjustments were made in the fiscal year 1974 program to comply with limitations imposed by Congress. At the end of the year, management of the program was transferred from the Army to unified command channels.

Beginning with the cease-fire of 27 January 1973, ammunition shipments to the Republic of Vietnam were limited to replenishing South Vietnamese ammunition supplies held on that date. From January 1973 to 30 June 1974, 302,101 short tons of ammunition were shipped to Vietnam, and ammunition issues to the South Vietnamese averaged about 15,000 short tons per month during the fiscal year. Close control was exercised by Headquarters, U.S. Army, Pacific, to see that cease-fire levels were not exceeded. When necessary, shipments were diverted to offshore areas to avoid violating the cease-fire.

Military Aid (International Logistics)

Since the beginning of the Military Assistance Program (MAP) in 1950, the Army in response to government policy has provided $18.2 billion in materiel and logistic services as grant aid. Congress in fiscal year 1974 reaffirmed this policy and authorized MAP appropriations of $512.5 million to thirty-one countries. Military assistance for Vietnam and Laos during fiscal year 1974 was provided by the military departments under Military Assistance Service Funding (MASF) rather than under the Military Assistance Program.

Under the terms of the Foreign Assistance Act of 1973, items excess to force acquistion objectives, located in the United States, and provided to foreign countries under MAP were charged to the receiving country's program at actual value. For items overseas, however, the country program was not charged until the value of

excess defense articles provided to all countries during fiscal year 1974 exceeded $150 million.

The Army portion of the fiscal year 1974 Military Assistance Program was $414.2 million, excluding Laos and Vietnam. In addition, $2.1 million was programmed from excess defense articles generated in the United States and $3 million from overseas. The Army's share included $218.7 million for materiel. During the year the Army filled orders for materiel and services totaling $316 million for 1974 and prior years and furnished $230 million of excess defense materiel as well. Virtually all materiel provided was purchased from United States vendors. Most of the MAP appropriations were used for major end items and ammunition as MAP recipients were encouraged to spend their own currencies for spare parts and for maintenance. Principal recipients were Cambodia, Jordan, Korea, the Philippines, Spain, Thailand, and Turkey.

Cambodia received the largest amount of MAP funds. The Army program was $333 million, of which $218.7 million was the result of special legislation. By presidential determination under Section 506 of the Foreign Assistance Act of 1961, as amended, the Department of Defense was authorized to provide up to $250 million in articles and services to Cambodia in anticipation of reimbursement from future appropriations.

Little grant aid was offered to Latin American countries for materiel and logistic services, and funds became relatively scarce because of the legislation previously mentioned. With the Foreign Assistance Act changed so that country programs are charged for excess materiel at actual value, Latin American countries had little incentive to spend their grant aid money on used equipment.

In other MAP developments, the delivery of material to Spain as part of the Spanish Base Rights Agreement was essentially completed by the end of the year. The fourth year of the projected five-year Republic of Korea modernization program was completed. The program, however, is behind schedule because of reduced MAP funding. The Indonesia Communications Project and the Philippines Communications System were close to completion at year's end.

During the fiscal year, the Army sold $3.7 billion in materiel and services to sixty-two countries and five international organizations under the Foreign Military Sales program. Forty-four outstanding cases were balanced and closed out. In conducting its sales activities, the Army adhered to the policy that materiel readily available through commercial sources would be sold directly by American industry to the recipient. The Army also arranged for

visits by high-ranking officers from eight allied nations to view military equipment.

The Army participated in eleven coproduction programs, which allow a foreign nation to assemble or manufacture major end items or weapons systems of U.S. origin. Arranged with the Republic of China, Italy, Japan, and NATO, these programs were valued at $610.8 million, with $301.3 million expended on goods and services in the United States. Coproduced items included the M113 armored personnel carrier, the M109 self-propelled howitzer, helicopters, wheeled vehicles, the Hawk and Nike-Hercules missile systems, a light antitank weapon, and small arms.

In the field of cooperative logistics, the Army maintained supply support arrangements for major end items and weapons systems with seventeen nations and with one NATO component. Included were conventional weapons and vehicles and the Sergeant, Pershing, and Hawk missile systems. The cost of the program, for which the United States is reimbursed, was $153 million in 1974.

Before this year, the financial responsibility for the Army's international logistics program, which includes materiel for grant aid and foreign military sales, was divided between the Comptroller of the Army and the Army Materiel Command. As a result of a management improvement study, the Army Materiel Command proposed that financial management be centralized at the International Logistics Center, New Cumberland Army Depot, Pennsylvania. Approving the plan and implementing it in February 1974, the Army transferred the international logistics fiscal, accounting, and disbursing operations of the U.S. Army Finance Support Agency and the Military District of Washington to New Cumberland. This centralization has helped to eliminate duplicative operations and increase responsiveness in billings and reimbursements.

X. Support Services

As in last year's summary, this section on support services brings together a number of topics dealing with the needs and welfare of the men and women who serve in the U.S. Army. In the past these topics have been covered elsewhere, principally in the personnel and logistics chapters, treating them in a single format underscores the importance of activities and services associated with the quality of Army life and its attraction in recruiting young Americans and in retaining experienced soldiers.

Health and Medical Affairs

Work loads in Army medical facilities decreased in fiscal year 1974, continuing a trend that began in 1970. As compared to the previous year, the number of medical care composite units decreased by 10.4 percent worldwide (10.8 percent in the United States and 8.9 percent overseas), bed occupancy dropped 13.8 percent (15 percent in the United States and 9.8 percent overseas), admissions were down 15.6 percent (17.2 percent in the United States and 10.9 percent overseas), births declined by 10 percent (7.7 percent in the United States and 14.3 percent overseas), and clinic visits were down by 5.2 percent (4.5 percent in the United states and 7.2 percent overseas). These decreases were to a great extent a reflection of the decline in Army strength, although the drop in bed occupancy was also attributable to a 63 percent reduction in acute respiratory diseases, a 50 percent decline in influenza and pneumonia, and a 98 percent decrease in rubella cases.

Despite the decline in medical work load, the cost of health care continued to rise, caused principally by higher civilian salaries authorized by Congress; the conversion of many enlisted positions to civilian jobs; the cost of the Armed Forces Health Professions Scholarship Program, which completed its first full year of operations; and the continuing rise in the cost of medical supplies. Expenses connected with the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) continued to increase, but at a lower rate than in recent years. Although fewer active duty dependents used CHAMPUS, this cost reduction was more than offset by increased treatment of retired persons and their dependents and by the higher rates charged in the civilian medical community.

Medical Corps officer authorization dropped from 5,153 in fiscal

year 1973 to 4,302 this year. Because of the physician shortage, physical therapists were given more responsibility in selected medical treatment facilities. They were the first to see patients with back pain or other musculoskeletal complaints, examining them, determining a provisional diagnosis, and overseeing the treatment prescribed in the final diagnosis.

Dental Corps officer authorizations also decreased, from 2,207 last year to 1,822 in fiscal year 1974. To help balance this reduction, several measures were taken. The criterion for dental treatment rooms per dentist was changed from one to two and two and a half, and construction began at Fort Lewis, Washington, and Fort Carson, Colorado, the first two clinics designed to meet this standard. Eleven additional clinics of this type were programmed for fiscal year 1975. In a corresponding change, dental assistants were increased from one per dental officer to one per treatment room. More use is being made of dental therapy assistants. A 48-week training program was started, and approximately one-half of nearly 400 assistants have completed training and are working. Meanwhile the number of installations using dental therapy assistants increased from the original twenty-two to twenty-eight. Employed in professional-paraprofessional teams, these dental assistants were well received by patients.

During the past year the Army cooperated with government agencies in veterinary matters. It assigned a Veterinary Corps liaison officer to the Department of Agriculture primarily to give advice on laboratory and histopathologic diseases. The liaison officer's other duties took in worldwide monitoring of animal and zoonetic diseases, training of active duty and Reserve personnel in the diagnosis of foreign animal diseases, and the development of laboratory diagnostic study sets. Another example of the Army's cooperation with the Department of Agriculture was an agreement, following consultations between Department of State and Federal Republic of Germany representatives, that permitted Veterinary Corps officers to certify for the Department of Agriculture all U.S. beef and pork shipped to Germany. The Veterinary Corps also participated in the Food and Drug Administration's worldwide survey of canned mushrooms. Taking place after inspections of civilian processing facilities revealed unsanitary practices and the existence of contaminated cans, the survey helped to reduce the potential biological hazard associated with clostridium botulinum contamination.

In medical research, the Army made excellent progress in developing a homologous convalescent antiserum for preventing and treating Bolivian hemorrhagic fever. Following inoculation with Machupu virus, the disease's etiological agent, rhesus monkeys

developed clinical signs, hematologic changes, viremias, antibody responses, and histopathologic lesions that were generally consistent with the disease in man. Usually the monkeys became ill about six days after exposure, and the mean time of death occurred on the nineteenth or twentieth day. Prophylaxis was possible with immune serum or the gamma globulin fraction when administered at about the time of exposure. The dosage of serum that produced low, detectable titers in the recipient protected against severe disease. Higher doses protected against the development of clinical signs, but not against infection. Monkeys could be successfully treated with a single dose of specific antibody if therapy was started within one or two days after clinical disease developed (eight days after inoculation). The dosage required was approximately seven times that which prevented illness. Findings also suggested that treatment could be successfully performed later in the course of the disease with continuous daily administration of the antibody.

Army medical researchers also discovered that up to 30 percent of the energy requirements received through intravenous feeding might be supplied by fat emulsions. Use of fat emulsions is expected to reduce the complications caused by the intravenous feeding of concentrated sugar solutions. Also, fat emulsions are easier to administer.

During the past year a number of medical units and facilities were discontinued. These included the U.S. Army Medical Research Unit, Malaysia, on 2 July 1973; the U.S. Army Medical Research Unit, Panama, also on 2 July 1973; the U.S. Army Medical Research and Nutrition Laboratory, Denver, Colorado, on 24 August 1973; the U.S. Army Medical Environmental Engineering Research Unit, Edgewood Arsenal, Maryland, on 30 October 1973; the U.S. Army Medical Department Activity, Fort Wolters, Texas, on 8 March 1974; and Valley Forge General Hospital, Phoenixville, Pennsylvania, on 30 June 1974.

Religion

On 15 August 1973, the Chief of Staff designated the Chief of Chaplains to be a member of his personal staff with full Army staff responsibility on matters of religion, morality, and human self-development. Previously the Chief of Chaplains had been under the general staff supervision of the Deputy Chief of Staff for Personnel. In a time of changing mores, this decision reflected the importance to be placed on religious and moral values within the Army community. In another organizational change, two career Reserve Component chaplains, one from the Army National Guard and one from the Army Reserve, were assigned to the Office, Chief

of Chaplains, on two-year tours to coordinate Reserve Component chaplain programs with the National Guard Bureau and the Office, Chief of Army Reserve.

The Chaplain Organization Development Program was started during the year as a way to define and articulate what the ministry is or can be on a given installation, to identify barriers to performing that ministry, and to plan for more effective organizational behavior. The ultimate goals of the program are to broaden participation in developing chaplain-related programs and to expand the chaplain's role in the formulation of command policy and in decisionmaking.

The Chaplain Organization Development Program was begun at ten installations: Forts Benning, Bragg, Dix, Hood, Jackson, Knox, Ord, Polk, Riley, and Sill. Based on favorable reports, the Army at the end of the year planned to add eight installations to the program: Forts Bliss, Campbell, Carson, Devens, Eustis, Meade, the Presidio of San Francisco, and Stewart. Each installation in the program will have a consultant from the National Training Laboratories for Applied Behavioral Sciences who would work with the post chaplain in carrying out the program. Additionally, laboratory training in interpersonal skill development, consultation skills, and training theory is given to selected chaplains at participating installations.

With the Chaplain Organization Development Program concentrated initially on the professional chaplain community, a corollary program, Faith at Work, was started primarily for the laymen. Under this program approximately ninety persons will be sent annually to laboratories designed to help men and women better appreciate their potential and expand their skills for working with others. The program will eventually develop a network of trainees within the military religious community capable of conducting installation workshops related to the annual training.

Together the Chaplain Organization Development Program and Faith at Work help to develop a sense of collegiality in the whole religious community. Each program aims at an open environment in which full participation in program planning and decisionmaking would be shared by chaplains and laymen.

Housing and Homeowners Assistance

The approved fiscal year 1974 Army Military Construction Program included $227 million for building 23,391 new troop housing spaces and 185 bachelor officer spaces in the United States and overseas. The budget also provided $140.5 million for modernization of 45,173 existing troop housing spaces and 528 bachelor officer

spaces. Included for members of the Women's Army Corps were 2,837 new construction spaces, 3,289 modernized spaces, and 100 new bachelor officer quarters.

During the congressional review of the fiscal year 1974 Army Military Construction Program, the House Armed Services Committee's Subcommittee on Military Construction challenged the living standards used in designing new and modernized barracks. The subcommittee wanted four men per room rather than three for grades E–1 through E–4 (trainees would continue to be billeted in open bay squad rooms) and thought that grade E–7's should share a room rather than have a private room. The Senate-House Armed Services Committee Joint Conference later directed the Secretary of Defense "to make a study of a planned occupancy for permanent barracks with a minimum of four persons per room for Enlisted Grades E–4 and below." The study was to estimate the cost savings for changing to this criterion and also the effects on morale and recruiting. An *ad hoc* group of representatives from the Office of the Secretary of Defense and the military services was formed to conduct the study. The group's report, entitled Department of Defense Study of Bachelor Enlisted Housing, January 1974, stated that although a number of small cost savings could be realized by using four-man rooms, these would be offset by lowered morale, a reduction in retention rates, and a detrimental effect on recruitment. The Office of the Secretary of Defense then recommended to Congress that no change be made in the enlisted housing criteria, a recommendation which Congress approved in March 1974.

Modernization of barracks and dining facilities under terms of the fiscal year 1972–73 Offset Agreement between the United States and the Federal Republic of Germany continued satisfactorily. The Army's share of this program, 576 million Deutsche marks, financed the renovation of 60,000 barracks spaces at fifty-five caserns and at border and other remote sites. At year's end, work was complete at 17 caserns, contracts were under way at 37 caserns, and plans had been completed for 1 remaining casern. The fiscal year 1974–75 Offset Agreement was signed on 25 April 1974. This agreement stipulated that funds would be used to complete the barracks and dining facilities modernization program and that any remaining funds would be allocated to environmental protection and ammunition storage projects. It was expected that all of the Army's share, 503.3 million Deutsche marks, would be required to modernize the remaining troop living facilities at 84 caserns and at remote sites.

The Army improved its family housing, making progress in providing suitable accommodations either on post or in the civilian

community for married soldiers (except trainees), adequate maintenance for existing housing, sufficient replacement furniture overseas, and government-owned clothes washers and dryers in overseas housing. The family housing picture was also brightened when the Secretary of Defense changed the criteria for quarters eligibility to include grades E–4's with over two years of service, and new family housing was programmed for enlisted people in this grade.

The fiscal year 1975 family housing program was presented to the Congress for consideration as the year closed. Key items in the programs for 1975 and for the remainder of the 1970s were as follows:

	Fiscal Year 1975	Fiscal Years 1976–1979
New units	4,360	17,740
Mobile home spaces	240	210
Improvements	$20 million	$120 million ($30 million/year)
Leases	11,928	20,000 level/year (FY 79)
Deferred maintenance		$134.5 million
Backlog reduction	$25 million	$46.5 million/FY 76; FY 77–79 ($25 million/year)
Furniture procurement	$10 million	$80 million ($20 million/year)

The family housing program, however, was not without problems. Currency revaluation overseas and escalating fuel prices continued to raise housing costs. Funds programmed to reduce deferred maintenance had to be cut, and the maintenance backlog was expected to increase. It became more difficult to award construction contracts at the statutory average unit cost limit of $27,000 for fiscal year 1974 without sacrificing desired living features. For this reason the 1975 budget proposes an increase of the unit cost level to $30,000. The following table provides a general picture of the appropriations and execution of the Army family housing program for fiscal year 1974. The differences between the program submitted to the Office of the Secretary of Defense and the actual appropriations represent OSD and congressional adjustments.

DEPARTMENT OF THE ARMY
FISCAL YEAR 1974 FAMILY HOUSING MANAGEMENT ACCOUNT

(In millions of dollars)

	Submitted to OSD	Appropriation
New construction	$ 210.7	$ 145.9
(Units)	(6,135)	(5,369)
Mobile home facilities	3.5	3.3
(Units)	(825)	(825)
Improvements	28.2	28.4
Minor construction	1.5	1.5
Planning	.2	.2
Total construction	$ 244.1	$ 179.3
Operation & maintenance	288.7	270.6
Leasing	17.1	16.5
(Units)	(7,314)	(6,929)
Total operation & maintenance	$ 305.8	$ 287.1
Debt payment	47.0	46.7
Total FHMA	$ 596.9	$ 513.1

Since enactment of the Homeowners Assistance Program in March 1967, 11,618 applications for assistance have been received and 10,766 have been processed. Of the number processed as of 30 June 1974, 8,143 were settled at a cost of $21.9 million, including 1,893 mortgage assumptions totaling $18.1 million. Some 2,623 applications were rejected, and 809 settlements were made without payment. A total of 891 appeals were submitted, of which 408 were approved, 402 were denied, and 81 were still being processed.

Food Service

During fiscal year 1974, 242,273,415 meals valued at $181,955,765 were served, 1,078,100 pounds of bread were baked, and 9,336,500 servings of pastry were prepared. The number and types of food service facilities supporting the worldwide Army Food Service Program were as follows:

	CONUS	Overseas	Total
Dining facilities	874	498	1,372
Garrison bread bakeries	0	3	3
Central pastry kitchens	4	0	4

Better food service remains the Army's goal, and several activities are under way to bring about needed improvements. Among them are the Dining Facility Improvement Program, the Dining Facility Modernization Program, and the Central Food Preparation System.

The Dining Facility Improvement Program was started in fiscal year 1972 to provide a more pleasing environment in the dining area, improved serving line equipment, and limited replacement of unserviceable food preparation equipment. Thus far the program has failed to produce dining facilities up to the standards desired for today's volunteer soldier and has not achieved the operational efficiencies and economies sought.

The modernization program, which is scheduled to get under way next year, will replace the improvement program. Intended to better the entire dining facility, it calls for the most advanced food preparation equipment, regular and short order serving lines, properly equipped and configured self-service areas, and, similar to the improvement program, relaxed dining.

During the past year twenty central food preparation facilities were programmed for construction at selected installations within the United States. An interim facility at Fort Lee, Virginia, will begin operations by April 1975, providing information on staffing requirements, production, planning, doctrine, and equipment. It

will also train personnel for other central food preparation facilities. Funds for construction of two permanent facilities at Fort Benning, Georgia, and Fort Lee, Virginia, were appropriated.

The food cost reduction program described in last year's report was rescinded on 1 November 1973. During the fifteen months the program was in effect, food cost reductions amounted to $1.763 million.

The U.S. Army Quartermaster School, in collaboration with the American Culinary Federation (ACF), proposed that Army food service people receive accreditation for each phase of career development. Through this active association with the ACF, the Army would be able to keep abreast of new food service methods. Equally important, accreditation, by providing an attractive second career opportunity upon retirement, is expected to attract more capable individuals to the Army Food Service Program. The proposed program will be submitted to the Department of the Army for approval.

Signature head counting at Army dining facilities tends to slow food service lines because of the time required to sign in. To remove this irritant, two accounting methods were under consideration. The first was a fully automated system to support the Central Food Preparation System; it will be tested at Fort Lee, Virginia, next year. The second uses meal card numbers instead of signatures. This alternative was evaluated by U.S. Army, Europe, and will be submitted to the Department of Defense for consideration in fiscal year 1975.

In other food service matters, the U.S. Army Troop Support Agency reestablished food management teams to assist Army commands and installations. Three of five planned teams became operational and visited twelve installations and 186 dining facilities during the last quarter of the fiscal year. Moreover, the last of three reports prepared by the Subsistence Operations Review Board (SORB) was published as the year closed. SORB III, a major undertaking, contained twenty-two recommendations. The Department of the Army Subsistence Review Committee, which did not meet while SORB was active, will resume next year.

Commissaries

The Direct Commissary Support System, which began in June 1970 as a pilot program involving three commissaries in Germany, provides nonperishable subsistence to forty-six commissaries overseas. Of the 31 overseas stores not in the system, 3 in Panama and 3 in Alaska were not added because of costs and distribution con-

straints, and the remaining 25 stores in Germany were, for the most part, too small to receive direct shipments.

As noted in last year's report, an internal automated system was installed in a hundred Army commissaries throughout the world to handle major administrative functions. During the past year a more sophisticated computer was successfully tested at Fort Bragg, North Carolina, demonstrating the feasibility of computerizing the work load at large installations. Requirements for a new commissary management system based upon this test were developed and at year's end were being staffed.

During fiscal year 1974 new procedures for modernizing the commissary surcharge account were established and will go in effect early next year. Accounting and reporting functions previously performed by the U.S. Army Finance Support Agency will be transferred to the U.S. Army Troop Support Agency, and reporting and reimbursement procedures will be streamlined to reduce work load at intermediate levels within the Army. Also the new procedures should lead to quicker reimbursements and to an up-to-date surcharge fund account.

Laundry and Dry Cleaning

During the past year the Army continued to replace outmoded equipment at laundry and dry-cleaning facilities. Eighty-five percent of the replacement program, described in last year's report, was completed. Of particular note was the completion of a replacement laundry facility at Fort Lewis, Washington. The new $2.4 million facility, which replaced an old World War II plant, contains the latest in labor- and cost-saving equipment designed to simplify and expedite the processing of over eight million pieces of laundry annually.

Plans were also completed for the installation of the hydraveyor, a fully automated, highly sophisticated device that washes, bleaches, rinses, extracts, and dries polyester and cotton clothes at the rate of 400 per hour. The hydraveyor will virtually eliminate hand pressing these garments. Those requiring pressing will be placed on hangers and then fed on a conveyor into the machine. The garment will emerge washed, pressed, and ready for the patron. The cost would be approximately 2.4 cents per garment, versus 7 to 14 cents for conventional methods.

Clothing and Personal Equipment

The Army adopted durable press summer uniforms to replace the all-cotton Army tans and durable press fatigue uniforms to

replace the standard cotton-sateen fatigues. The Defense Supply Agency has started procurement of the new summer uniform, which should be available for issue by 1 July 1976. Procurement of a durable press fatigue uniform awaits agreement among the military services on a standard version.

Following testing by the U.S. Army Natick Laboratories, the Army Uniform Board recommended and the Chief of Staff approved two fabrics of polyester-wool blends for optional double-knit Army green uniforms for men and women. A list of manufacturers authorized to sell double-knit uniforms was made available to interested retail stores and individuals. The Army and Air Force Exchange Service (AAFES) offered the uniform for sale in post exchanges for $100 to $125.

Development of a new helmet and torso vest for better fragmentation protection continued. Prototypes of each were designed, and development testing was begun. At the same time, the Army reviewed the threat of fragmentation and small arms munitions and completed a cost effectiveness analysis for the new protective gear.

Heraldic Activities

The accomplishments of the Institute of Heraldry during the past year are reflected, in part, by the following statistics: 438 items designed, 2,130 drawings and paintings completed, 168 items sculptured, 403 items developed, 1,198 items certified, 108,194 items inspected, and 90 standardization documents completed. Of particular interest was the Institute's role in the design and development of the new Department of the Army plaque, which was approved by the Secretary of the Army on 29 January 1974. Its design is derived from the official Department of the Army seal, which has been in use since the Revolution without change, and is a symbol of the Army's traditions, ideals, and contributions to the development of the nation. Among other items designed or developed by the Institute of Heraldry were distinctive unit and shoulder sleeve insignia, ROTC flags and insignia, the Secretary of Defense Outstanding Public Service Medal, the Air Reserve Forces Meritorious Service Medal, Navy ship markings, Coast Guard flags and streamers, the Department of Transportation Superior Achievement Medal, the American Red Cross Harriman Award Medallion, and Civil Service Commission length of service emblems.

The Institute started several new studies and experiments on materials and processes for manufacturing heraldic items in order to improve quality, reduce procurement difficulties, and lower costs. These included tests to determine the suitability of black plastic

insignia of grade for enlisted men, a study on making better looking ribbons to be placed on bars and used as streamers, a project on experimental flagstaffs made of alternate materials to assure availability at reasonable cost, and a study on substitute materials for the metal flagstaff head, spear, and ferrule. The Institute continued to study and experiment with new materials and methods of manufacturing flags (including embroidery, appliqué, and silk screening) because of the diminishing supply of certain fabrics and the problems of dyeing fabrics in multicolors in relatively small quantities.

As a result of successfully concluded experiments and studies, significant reductions in the production costs of several heraldic items have been achieved. For example, a number of insignia, badges, and other awards formerly made of gold and sterling silver will be produced either of less expensive metals or with substantially less gold and silver, with no change in overall appearance or serviceability. Also, new tools were developed to minimize the difficult enameling processes required in the manufacture of the Army and Air Force Medals of Honor.

Morale and Recreation

A decline continued in the financial support provided by the Army Central Welfare Fund (ACWF) for morale, welfare, and recreational programs. Dividends from the Army and Air Force Exchange Service, which totaled $46.8 million in fiscal year 1972 and fell to $28.9 million last year, dropped to $26.1 million. By 30 June 1974 the ACWF was over obligated by $3.1 million, and $17.8 million in new construction of morale, welfare, and recreational facilities, scheduled for fiscal years 1974 and 1975, had to be canceled.

In a related development, the Army in March 1974 ended the construction loan program for the ACWF guest houses. Since its beginning in 1967 this program had provided $10 million in revolving loans and financed twelve motel-style guest houses at Army installations in the United States.

Despite the decline in ACWF funds and increased costs, subordinate commands sustained their programs by drawing upon dividends accumulated in prior years. Next year, however, many morale, welfare, and recreational programs will face curtailment unless additional appropriated or nonappropriated funds can be made available.

For outdoor recreation, the Army set up ten travel camp centers, each a prefabricated 1,200-square-foot building with washers, dryers, recreational playground equipment, picnic tables, and grills.

It distributed 800 men's and 200 women's three-speed bicycles and bought an additional 1,660 bicycles, to be delivered next year. It also bought 500 pedal boats for recreation on lakes, ponds, and other small water areas. A technical manual on Army outdoor recreation facilities was also started, and the first Army-wide Outdoor Recreation Training Conference was held during 28 January–1 February 1974. Approximately 100 outdoor recreation personnel and recreation services officers attended.

Under the Army Arts and Crafts Program, the first permanent arts and crafts center was built with military construction funds and opened in May 1974 at Fort Gordon, Georgia. Another new arts and crafts center, constructed with nonappropriated funds, opened at Fort Jackson, South Carolina, and new automotive facilities were completed at Fort Eustis, Virginia, and Fort Bliss, Texas. A total of 193 arts and crafts training projects were undertaken during the year: 33 workshops for arts and crafts directors and instructors were scheduled; certification tests for 100 auto mechanics were administered; and, in cooperation with the General Education Development (GED) Program, 60 courses were presented in subjects such as auto mechanics, carpentry, upholstery, jewelry making, and appliance repair. Also, glassblowing was added to the Arts and Crafts Program.

Several activities were under way as part of the Army Music and Theatre Program. A test program for piano instruction was begun at fifteen installations in the United States and five in Europe. Theater craft kits for technical training were distributed to volunteers whose talents augmented professional civilian specialists employed in the Army Music and Theatre Program. Finally a series of guest artist seminars were held to train theater specialists.

Electric guitar lessons were a favorite among Army people this past year. More than 27,000 participants each month took advantage of the training offered at twenty-one electric guitar laboratories, including twelve new ones. To augment the training offered at the laboratories, self-instruction kits were distributed.

The testing of two showmobile prototypes, described in last year's report, proved successful. Extending the testing to other installations, however, was hampered by reduced funding for the purchase of additional prototypes.

Increases and reductions marked Army band activities during the year. As authorized last year, WAC personnel were assigned to Army bands for the first time. The Third Army Band was enlarged from forty-three to seventy-two pieces and reorganized as the 214th Army Band, "FORSCOM's Own." The 328th Army Band, Fort

Wolters, Texas, was inactivated on 24 August 1973, and the number of bands reduced to sixty-three. The U.S. Military Academy Band went from 159 to ninety-nine pieces. In a related matter, plans for the U.S. Army Forces Bicentennial Band were completed during the year.

Armed forces aerial demonstration teams conducted 399 exhibitions during the fiscal year, performing before audiences totaling almost 5 million. The Army for its part continued to highlight its parachute team (Golden Knights) and its aviation precision demonstration team (Silver Eagles). Although Department of Defense Budget Decision 182 called for disbanding all aerial demonstration teams at the end of the fiscal year, all four military services protested and the exhibitions were allowed to continue. Aerial demonstrations were halted, however, in February because of the energy crisis, not to resume until April and then on a limited schedule. Meanwhile, the Army sent its teams on ground demonstration tours. On 23 May 1974, scheduling responsibility for the Army's teams was transferred to the U.S. Army Recruiting Command (USAREC). The Office of the Chief of Information will serve as public affairs coordinator of the team's appearances at public events.

A survey of recreation, education, and avocation preferences (REAP) within the military community taken in 1971 led to a major revision of Army Regulation 28–1, *Welfare, Recreation, and Morale: Army Recreation Services,* which was published on 15 October 1973. The revision designated outdoor recreation and dependent youth activities as separate, major recreation programs; called for installation information, tour, and travel centers; and discontinued use of the term "Special Services" in favor of "Recreation Services."

A second REAP survey conducted from mid-October to mid-December 1973 revealed that the most popular interests of the military community were bowling, basketball, football, tour and travel, swimming, and fishing. Hiking, bicycling, motorcycle racing, vocational training, and higher level sports activities (principally overseas) also ranked high. The survey indicated a need for better publicity and for adequate transportation to make recreational activities more accessible to participants.

Following a review of the activities of the U.S. Army Club Management Agency (USACMA) in December 1973, Congress denied the agency use of appropriated funds in carrying out its mission of providing financial and technical management of officers', noncommissioned officers', and enlisted men's clubs. Later, in April 1974, USACMA was reorganized at two-thirds its former size and as-

signed as an activity of the Adjutant General Center. All retained civilian positions were to be paid with nonappropriated monies from the Army Central Mess Fund. Additional nonappropriated funds needed to operate the agency would be assessed on the gross retail sales of packaged alcoholic beverages at Army clubs. The levy, which went into effect on 1 July 1974, would be prorated based on the number of bottles of all alcoholic beverages, except beer, projected to be sold within each command during fiscal year 1975. The assessment plan will be reviewed annually, and installation commanders will be allowed to make one-time price adjustments for selected noncompetitive items to offset their assessments if they unduly affect net income.

To provide better assistance to Army clubs, USACMA has grouped its technicians as "desks." Each desk is manned by a club management officer, a food and beverage specialist, and a business management analyst who together monitor the clubs of an integral command, such as the Army Materiel Command, or the clubs of a group of smaller commands. Under this procedure club managers and their commanders have designated representatives at USACMA to help with club problems—an our-man-at-USACMA concept that should foster a close relationship between club management people and the agency.

Education

Congressional concern about the role of the Department of Defense in educational affairs resulted in the disestablishment of the United States Armed Forces Institute (USAFI) and the end of Project Transition, which prepared military people to return to civilian life. Concluding Project Transition a year sooner than expected, the Army accelerated a shift to vocational and technical education as part of the General Educational Development (GED) Program. During its six-year existence, Transition provided counseling for 1,136,108 soldiers and training for 302,999.

The rapid and unanticipated disestablishment of USAFI left the Army with a severely curtailed testing program. The Department of Defense established the Defense Activity for Non-Traditional Education Support (DANTES), with the Navy as executive agent, to continue an armed forces credit-by-examination program and to catalog self-study opportunities for service members. Until DANTES becomes operational, however, the Army will continue to conduct limited testing with state and local school assistance in the continental United States, Alaska, and Hawaii.

In addition to terminating USAFI, Congress directed that the

military services refrain from issuing high school equivalency certificates. Instead, they were to rely on the more than 1,800 official GED testing centers established by state Departments of Education.

With the determination of high school equivalency a matter for the states, military people without a diploma have been encouraged to pursue a high school education through the GED-sponsored Pre-discharge Education Program (PREP). PREP monthly enrollment was 8,466 at the end of December 1973, reached a peak of 15,650 on 31 January 1974, and was 12,240 by the end of May 1974.

In addition to PREP, a number of other GED programs reached all-time enrollment highs during fiscal year 1974, as indicated below:

Activity Completions	Fiscal Year 1972	1973	1974
High school	88,488	109,860	124,534
College	94,751	126,809	158,837
Vocational-technical/MOS	48,974	84,018	76,731
Correspondence courses	20,099	26,157	28,681
Language courses	34,148	39,457	61,011
Tests administered	869,577	951,878	913,409

As classroom activity increased during the year, the Army added three professional counselors and one military administrative officer to the GED staff at Department of the Army. Responding to a House Appropriations Committee report which called for an end to hiring counselors on nonpersonal services contracts, the Army also added 543 spaces to the education center staffs for full-time professional counselors. To train career educational counselors for the new spaces, teams from the U.S. Armed Forces Institute and the University of Wisconsin conducted seven counselor training sessions during the year at locations throughout the world.

Related to the GED Program, the Servicemen's Opportunity College (SOC) concept was expanded during the fiscal year to include four-year institutions. There are now over 250 two- and four-year institutions in the SOC network across the United States and abroad.

The Army printed and distributed its own Educational Services Plan. This plan requires installation commanders to write their own local plans, setting forth the educational needs and desires of their people and the opportunities available within the limits of facilities, personnel, the financial resources.

In April 1973 the Department of the Army approved the installation of three minicomputers in selected U.S. Dependent Schools, European Area (USDESEA). Additional procurement was contingent upon successful reviews of these minicomputers. The

reviews revealed that the minicomputers were useful in the USDESEA high schools but that installation would be economically justified only at high schools with a minimum of 175 students. Based on this criterion, thirty-two USDESEA high schools qualified for minicomputers. These will be installed in three annual increments, with the first group of ten to be set up in the fall of 1974.

Legal Assistance

On 16 July 1973 the Assistant Secretary of Defense for Manpower and Reserve Affairs authorized the military departments to continue the Pilot Legal Assistance Program, renamed the Expanded Legal Assistance Program. At the end of the fiscal year the program was in operation at ten Army installations, and additional posts were preparing to implement it.

In other developments, the revision of Army Pamphlet 27–12, *Legal Assistance Handbook*, and of Army Regulation 608–50, *Legal Assistance*, was completed. Also, the Army Legal Assistance Office, in conjunction with the Internal Revenue Service, the Air Force, and the Navy, organized the 1974 Armed Forces Income Tax Instructor schools, which were held in several locations throughout the world during January and February 1974.

Because 1973 was an off year for voting, with only seven states having scheduled elections and four having special elections, the Army's Voting Assistance Program was somewhat limited during most of the past fiscal year. Early in 1974, however, the program was stepped up to prepare for the primary elections, which began in March. Unit voting assistance officers and counselors were appointed throughout the Army, and detailed voting information was supplied by circular, letter, fact sheet, and message to provide a more effective voting program for the election year.

United States Soldiers' and Airmen's Home

The United States Soldiers' and Airmen's Home carries on a tradition over a hundred years old of providing a comfortable residence for old or disabled enlisted men and warrant officers of the Regular Army and, since 1947, of the Regular Air Force. The home is principally supported by funds derived from active duty soldiers and airmen and set apart by law in a trust fund known as the "Soldiers' and Airmen's Home Permanent Fund." Interest from this fund is used to defray expenses. Additional operating income comes from fines and forfeitures imposed by

sentences of courts-martial, unclaimed estates of deceased soldiers, and monthly withholding of pay.

Since 1971 the home's revenues have not kept up with the costs of maintaining essential services. The board of commissioners of the home and the Secretaries of the Army and Air Force took actions during fiscal year 1974 to maintain financial solvency. Legislation was enacted on 15 December 1973 to increase the statutory limit on interest paid on the Permanent Fund from 3 percent per annum to the average yield on comparable outstanding U.S. long-term obligations. With this increase, annual interest should yield approximately 7 percent. Also, the monthly deduction from the pay of Regular enlisted and warrant officer members of the Army and Air Force on active duty was raised from 10 cents to 25 cents per month, effective 1 July 1974. Expenditures for new construction, except that needed for the already under way renovation of the Sherman South domiciliary building, were deferred. Civilian employment spaces at the home fell from 1,274 to 1,203, effective 1 October 1973.

Memorial Affairs

During fiscal year 1974, 2,795 bodies—1,304 overseas and 1,491 in the United States—were handled under the Army's Disposition of Remains Program. In carrying out this function overseas, the Army operated eight mortuaries, two less than in fiscal year 1973, in foreign countries where U.S. forces were stationed. The bodies brought back to the United States were processed at three ports of entry: Oakland Army Base, California; Fort Hamilton, New York; and Dover Air Force Base, Delaware. In the United States, installations were authorized to use civilian funeral establishments at or near the place of death, either on a one-time basis or by annual contract.

The United States Joint Casualty Resolution Center (JCRC) at Nakhon Phanom, Thailand, continued to resolve the status of U.S. personnel missing in Southeast Asia. One phase of its mission included search and recovery operations throughout Southeast Asia under arrangements made through the Four-Party Joint Military Commission. Supporting the JCRC mission was the Central Identification Laboratory at Camp Samae San, Thailand; it received all the recovered bodies and processed each for identification. The U.S. Army Memorial Affairs Agency (USAMAA) supplied the laboratory with information on incomplete cases. Upon completion of identification by the laboratory, case papers with recommendations were submitted to the USAMAA Armed Services

Graves Registration Office for approval. During fiscal year 1974, forty bodies were received and identified, including twenty-three who died in captivity. After each body was identified, the respective service arranged for disposition in accordance with the desires of the next of kin.

The remains of seven World War I soldiers were unearthed in Villesavoye, France, by laborers installing a septic tank. Identification after a lapse of fifty years was impossible, and the unknown soldiers were interred on 22 January 1974 in the Somme American Cemetery, Bony, Aisne, France.

The remains of 20 soldiers of World War II were recovered from former battle areas where U.S. forces had been stationed: 5 were recovered from the wreckage of a B–24 in India, 1 from Germany, 13 from New Guinea, and 1 from the Philippines. The bodies found in India could not be identified and, after group burial rites, were interred in Arlington National Cemetery on 7 December 1973. Ten of the bodies from New Guinea, also casualties of a B–24 crash, and not identifiable, were to be interred as a group in Arlington National Cemetery. The remaining five Army decedents were identified and interred in accordance with instructions received from the next of kin.

As noted in last year's report, the National Cemeteries Act of 1973 provided for the transfer of eighty-two of the eighty-four national cemeteries under the Army's jurisdiction to the Veterans Affairs Administration. The transfer was accomplished on 1 September 1973. Interments at the two national cemeteries remaining under Army control totaled 2,639 for the fiscal year: 2,537 were buried at Arlington National Cemetery, and 102 were interred at Soldiers' Home National Cemetery.

In accordance with other provisions of the National Cemeteries Act of 1973, the Administrator of Veterans Affairs, together with the Secretary of Defense, conducted a comprehensive study of the future status of Arlington National Cemetery. This study, submitted to the Congress in January 1974, recommended retention of Arlington National Cemetery by the Army, continuation of the present restrictive burial criteria at Arlington, and the establishment of another cemetery in or near the District of Columbia.

The U.S. Army Memorial Affairs Agency provides staff supervision for twenty-eight Army post cemeteries located in twenty states and for three plots in private cemeteries used for post burials. The plots, located in Denver, Colorado, Detroit, Michigan, and Columbus, Ohio, were not open for additional interments. Sixteen of the twenty-eight post cemeteries, located in fourteen

states, still have burial space. Interments made since the establishment of the post cemeteries and the post burial plots in the three private cemeteries totaled 25,496 as of 30 June 1974. Of this number, 517 decedents, whose identity could not be established, were interred as unknown soldiers.

The Army furnished government headstones and markers for the graves of all eligible deceased members of the armed forces until this activity was transferred to the Veterans Administration on 1 September. Government headstones and markers procured during the two months before the transfer totaled 34,261: 10,373 were marble, 9,294 granite, and 14,594 bronze. A total of 8,544 headstones and markers were sent to national and post cemeteries and 25,717 to private cemeteries. Funds obligated by the Army during July and August 1973, including transportation, amounted to $1,175,000. A total of $5,623,000 was transferred to the Veterans Administration to pay for headstones and markers for the balance of fiscal year 1974.

XI. Research, Development, and Acquisition

As noted previously in Chapter IV, the Army centralized the responsibility for the life-cycle management of materiel before entry into inventory within the new Office of the Chief of Research, Development, and Acquisition (OCRDA). At the same time, there was a major reorganization of Army materiel research and development programs, equipment, and people. This reorganization, which allows for direct and straight-line support of Army aircraft, missiles, armament, tanks, armored vehicles, and troop support systems, should bring about more efficient development of Army weapons systems.

The reorganization of 20 May 1974 also decentralized the monitorship of nonmateriel research and development. The human resources research and development program was transferred from the old Office of the Chief of Research and Development to the Office of the Deputy Chief of Staff for Personnel, and the Office of the Chief of Engineers was assigned Army staff responsibilities for the Army's environmental sciences and environmental quality research and development programs.

Program and Budget

The fiscal year 1974 research, development, testing, and evaluation (RDT&E) program, as contained in the President's budget request to Congress, was $2,108.7 million. Later the program was amended: $6.2 million was taken away from the utility tactical transport aircraft system (UTTAS), $8.4 million withdrawn from the nuclear munitions program, and $1.1 million added to cover the higher costs of petroleum products. The net reduction of $13.5 million cut the amount requested to $2,095.2 million. Congress then appropriated $1,912.1 million, and major reductions were made in the exploratory ballistic missile defense program, the advanced ballistic missile defense program, the advanced forward air defense system, Site Defense, and the Safeguard defense system.

During the year supplemental requests were made to support civilian pay increases ($35,898,000) and to improve Army readiness ($19,145,000). Congress provided $26,914,000 in June 1974. Because of this late supplemental appropriation, the goal of having an unobligated balance of $92.6 million of RDT&E funds

by the end of fiscal year 1974 was not met. The unobligated balance, as of 30 June 1974, was approximately $100 million.

The fiscal year 1975 RDT&E budget request of $2,104 million for the Chief of Research, Development, and Acquisition was submitted to the Army's Budget Review Committee in August 1973, where it was increased to $2,116 million and incorporated in the Army's budget submission to the Office of the Secretary of Defense. Included in the request were $3.7 million for pay increases, $8.5 million for test and evaluation facilities, and $4.7 million for major subordinate command headquarters.

Program and budget decisions by the Office of the Secretary of Defense and the Office of Management and Budget reduced the Army RDT&E request for fiscal year 1975 to $1,886 million, the amount included in the President's budget request to Congress in January 1974. Because of this reduction, the UTTAS, Safeguard, Site Defense, and SAM-D programs were adjusted, and the Land Warfare Laboratory[1] in Aberdeen, Maryland, was selected for closure as a cost-saving measure. In considering the President's budget request, the House Armed Services Committee recommended $1,878.4 million and the Senate Armed Services Committee $1,875.2 million. At year's end Congress had not yet agreed on a figure.

To manage research and development better, the Army is working on the Modernized Army Research and Development Information System (MARDIS). A vertical system for servicing all research and development levels, MARDIS will consolidate twenty-six project and task reports into a single form. The system was ready for testing at the close of the fiscal year.

Research and Technology

The overseas research offices in London and Tokyo continued to serve as windows on science and technology in both Europe and the Far East. The Tokyo office was primarily responsible for basic research in the life sciences, and the London office's activities were broader, covering almost all the scientific disciplines and a geographical area extending to India and the Near East. Both offices had a dual mission to establish technical liaison between U.S. and foreign scientists and to coordinate and support Army research in their geographical areas of responsibility. European research was performed under contracts and grants and was financially advantageous since costs were from one-third to one-half lower

[1] This facility was disestablished on 30 June 1974, and its projects were transferred to other Army Materiel Command laboratories.

than those in the United States. Cost sharing was widely practiced and unique scientific talents not available in the United States were frequently employed.

To bolster the Army's research and development capabilities in the behavioral and social sciences, especially for quickly needed research, the Commander, U.S. Army Training and Doctrine Command, approved the transfer of the functions and personnel spaces of five human research units to the Army Research Institute (ARI). Five new ARI field units were organized as a result of this transfer. Two new units were also established in USAREUR and Korea, and field activities were planned for Fort Carson, Fort Leavenworth, and Fort Lee. ARI field activities had previously been set up at Fort Benning, Fort Hood, and Fort Ord.

Army research in the behavioral and social sciences during the past year supported several projects, including the development of more realistic unit tactical training; the implementation of a training system involving computer-assisted instruction and computer-managed instruction; fielding of a new Army Classification Battery and Aptitude Area System that provides expanded measurement of interests and motivation related to Army jobs; and continued support to the Modern Army Selected Systems Test, Evaluation and Review (MASSTER) project. Also an ARI program of pilot performance flight measurements showed the usefulness of terrain analysis training in aiding nap-of-the-earth navigation.

In the topographic sciences, the Army strengthened the technology base program and concentrated on satisfying its own mapping and military geographic information requirements and those of the Defense Mapping Agency (DMA). Work progressed on coherent optics for topographic data processing, storage and retrieval, inertial and satellite techniques for obtaining gravity data, photo interpretation for collection and analysis of military geographic information, and digital processing and digital photogrammetry. There were several specific activities related to the technology base. Computer simulations showed that satellite navigation systems, such as the Global Positioning System, could track geodetic satellites used to determine gravity fields and that reliance on ground tracking stations could be reduced. Tests demonstrated that a modified Army Position and Azimuth Determining System could be used to determine position and elevation during gravity surveys of launch sites. Studies indicated that new, all-electronic map compilation equipment offers a threefold to fourfold cost savings in hardware over present automatic equipment. Demonstra-

tions showed the feasibility of target reference scenes that could be correlated with terminal guidance radar in a static mode. In the area of military geographic information, products to assist the combat commander were designed and tested, and the evaluation of multiband imagery for collecting and processing data continued.

The Army also furthered its research in the atmospheric sciences. It developed a prototype laser sensor that can remotely measure the crosswind over a horizontal path of direct tank fire for lengths up to two kilometers (the range may be extended to three kilometers). In early tests, this sensor was more accurate than standard meteorological instruments, such as sensitive anemometers, in measuring crosswinds for tank fire. The Army and the Air Force are using this laser sensor in support of high-energy laser programs, and the Army is considering it for use with the main battle tank. At White Sands Missile Range the artillery subsystem of the Automatic Meteorological System (AMS) was installed. The objectives of the AMS, which will be evaluated next year, are to develop automated meteorological systems that would collect and organize meteorological observations obtained from various sources, perform near real time analyses, integrate these analyses with forecasts, and disseminate the data in messages and displays.

In the terrestrial sciences the Army made several advances during fiscal year 1974. Research progressed on the effect of soils, vegetation, and terrain on the performance of unattended seismic sensors developed for battlefield surveillance and anti-intrusion systems. A quantitative computer model that predicts Raleigh wave propagation as a function of subsurface conditions and propagation distance was developed. Methods of identifying the effects of the environment on materiel were also developed. These methods will allow research and development people to consider environmental effects before equipment is tested, at which point change is expensive and time-consuming. Finally, work continued on the development of a performance prediction model for the Army Materiel Command's (AMC–71) cross-country vehicle. Emphasis was placed on the effects of soft soils, snow, and other obstacles on vehicle mobility.

Extensive field tests were conducted at Fort Polk, Louisiana, to determine the cratering and collateral effects of subsurface nuclear explosives in terms of geological conditions and emplacement geometry. Additional tests are scheduled for fiscal years 1975 and 1976. Test information is expected to lead to reliable employment doctrine for tactical nuclear weapons, reduce the un-

certainty of collateral effects, and contribute to the Army's studies on tactical earth-penetrating warheads.

In activities dealing with facilities and military engineering, designs for nuclear blast-resistant protective structures were fully tested. Army researchers continued to look for ways to excavate frozen earth more rapidly, and to help solve the serious problem of electrical grounding in frozen earth, they developed a model for predicting variations in electrical resistance to the ground caused by seasonal changes. They demonstrated the feasibility of inflating fiber-reinforced concrete structures and continued work on the use of foamed material in base development construction. Army researchers also developed design criteria for medium- and heavy-duty landing mats and standardized criteria for airfields and heliports using mat surfacings, along with construction criteria and techniques for the protection of shoulder and overrun areas against high-velocity aircraft blast and downwash.

The research and development program for military construction addressed the needs associated with the operation and maintenance of permanent Army facilities valued at more than $55 billion, an annual new construction program of more than $0.7 billion, and an annual expenditure of approximately $1 billion for the operation and maintenance of existing facilities. The research, development, testing, and evaluation budget of $5.5 million for fiscal year 1974 allowed investigation into such areas as permanent construction materials and techniques, military construction systems development, engineering in cold environments, nuclear power applications, environmental problems, space technology applications, and hardened facilities design and construction.

Major military construction research and development advances during the past year included the development of a computer-based system for reporting facility deficiencies, development and field testing of a method and equipment for testing the strength of freshly mixed portland cement concrete, development of planning and design criteria for making military facilities more habitable and useful, and development of more economical heavy-load designs for airfield pavements. In research to improve facilities and construction techniques in cold regions, low-frequency electromagnetic probing was successfully used for aerial detection of permafrost zones and geological discontinuities, such as gravel deposits. In addition, a laboratory technique for determining water content of frozen soils was developed. To improve environmental quality protection in the construction and operation of military facilities, field tests were made on a computer-aided system for

preparation of environmental impact assessments, and environmental standards for air and water pollutants resulting from the manufacture of explosives and munitions were established. Research in pollution control demonstrated that polymeric resin can be used to absorb aromatic nitrobodies and that the use of electrodes is effective in monitoring the cyanide content of waste water.

The Army and the National Aeronautics and Space Administration undertook two joint projects, one to develop the rotor systems research aircraft (RSRA) and the other to test the tilt rotor concept. On 17 January 1974 the two agencies approved the plan for the RSRA of the Sikorsky Aircraft Division, United Aircraft Corporation. Completion of the project should add to basic rotorcraft technology and verify through flight experimentation a wide variety of promising rotor concepts and supporting technologies. A flight demonstration of the tilt rotor, under a Bell Helicopter Company contract awarded in August 1973, was scheduled for early fiscal year 1977; benefits in performance, survivability, and safety from applying tilt rotor capabilities to various military missions will be evaluated.

The first flight of a Sikorsky S–67 Blackhawk equipped with a fan-in-fin antitorque device was made in March 1974. A 29-hour flight test program that compared the performance of the fan-in-fin with the conventional tail rotor was completed, and final assessment is expected in early fiscal year 1975.

Earlier in the year, the first advancing blade concept demonstrator aircraft was involved in an accident during flight tests. While the accident was being investigated, fabrication of the second aircraft and flight testing was suspended. The investigation revealed the cause of the accident, and modifications were made to correct aircraft deficiencies.

A special task force examined and validated Army position and navigation equipment and requirements during the year. The Army then agreed to participate in the initial research and development phase of the NAVSTAR Global Positioning System (formerly the Defense Navigation Satellite Development Program). Finally, the Army completed component testing of four models provided by contract for the small turbine advanced gas generator program. Testing was begun on the gas generator.

Development

There were several actions taken during the past year in the development of systems for command and control. Following a year of intensive correction of deficiencies, the Tactical Fire Direc-

tion System (TACFIRE) showed considerable improvement, particularly in terms of reliability, availability, and maintainability, during second-phase development and operational tests begun at Fort Sill in May 1974. In the Tactical Air Control Systems/Tactical Air Defense Systems (TACS/TADS) program, formal testing of an AN/TSQ–73 Battalion System was started in October 1973 and will continue through fiscal year 1975. Research development acceptance testing and development and operational testing on another AN/TSQ–73 prototype was completed during the year. For the joint program to achieve interoperability between tactical command and control systems in support of ground and amphibious military operations (GAMO), the Army's Chief of Staff serves as the JCS executive agent. On 29 June 1974 contracts were awarded for production of a technical interface design plan and a joint interface implementation plan for GAMO.

In the development of communications systems, two contractors built competitive prototype models for the AN/TTC–39 automatic switch. The models were evaluated, and in April 1974 GTE–Sylvania was awarded a contract to build sixteen engineering development models, with testing scheduled to begin in April 1977. An *ad hoc* working group was established in July 1973 to devise a plan for the development of single channel tactical radio communications equipment. The working group's four-volume report was submitted to the Vice Chief of Staff on 18 January 1974 and will be used to revise the Tactical Communications Master Plan and to guide the future development of new radios.

Two radar programs for locating enemy weapons were on schedule at the close of the fiscal year. Fabrication of the artillery-locating radar, AN/TPQ–37, neared completion, and a contract for making engineering development models for the AN/TPQ–36, a mortar-locating radar, was let. The contract was awarded to the Hughes Aircraft Company in October 1973 following a sixteen-month delay due to litigation arising over protests made by competing contractors. In a related matter, the U.S. Marine Corps awarded a contract to Raytheon for a feasibility model of a system to locate both mortars and artillery. The Marine Corps model and the AN/TPQ–36 were scheduled for comparative evaluation in late fiscal year 1976.

The Remotely Monitored Battlefield Sensor System (REMBASS) remained in the validation phase throughout the year. Following approval of the Defense Program Memorandum for REMBASS by the Director of Defense Research and Engineering in March 1974, preparations were made to begin development and operation tests in fiscal year 1975.

In September 1973 the Deputy Chief of Staff for Research and Development approved an Army Materiel Command recommendation to develop two common modules for thermal imaging systems: one basic module for man-carried systems, but excluding the handheld thermal viewer because of the near completion of its development, and another basic module, requiring higher performance and power, that would be vehicular mounted.

Based on early estimates the Director of Defense Research and Engineering added $3 million to the fiscal year 1975 budget request for the TOW antitank missile to support the standard module program. Engineering contracts were signed in December 1973 with two contractors for competitive engineering development of the TOW night sight and its basic common module for portable systems.

Several other development activities involved night-vision devices. In June 1974 a second contract was let to develop a second-generation thermal night sight, based on the common module concept, for the Dragon weapon system. Night-vision goggles, AN/PVS–5, were classified standard, and the M60 turret integrated night thermal sight, redesignated the tank thermal sight program, underwent eighteen additional months of advanced development and testing to correct deficiencies in prototypes fabricated by Hughes Aircraft Company and Texas Instruments.

Research was completed and the first phase of the low-level night operations (LLNO) study, which had been started in 1971, was published. A final report is due in December 1974. The LLNO study demonstrated that pilots could fly at low levels in a simulated nighttime environment using only a two-dimensional display. Continuing research, however, would be required to solve the complex problems associated with actual flight. Wire and obstacle detection at low altitudes still appears to be a technological barrier for continual low-level flying.

In aerial navigation, the Army continued engineering development of the LORAN Airborne Navigation Subsystem in fiscal year 1974 and awarded a contract for the engineering development of a self-contained Lightweight Doppler Navigation System. These two systems should provide the first-line Army aircraft fleet with a tactical navigation capability. The Army also signed a production contract for the AN/TRN–30 low-frequency beacon. This system should significantly improve the tactical navigation capability of the Army aviation fleet.

In other avionics matters, the portable air traffic control (ATC) facility (AN/TSQ–97) was type classified and placed in production during the past year. This item will provide voice communications

for ATC functions in visual flight conditions at most advanced helicopter landing zones in the division combat area. The ATC facility should be available for field operations in 1976.

The Army awarded an engineering development contract for an absolute altimeter (AN/APN–209) and let a multi-option procurement contract through the Naval Air Systems Command for encoding altimeters (AN/AAU–32). These altimeters, in conjunction with other electronics equipment, will be used to report altitude data to ground ATC stations. The Federal Aviation Administration (FAA) directed that this equipment be operational by 1 January 1975 for Army aircraft operating in Group I terminal control areas.

A competitive procurement program was started to provide a lightweight, low cost, en route navigation and instrument precision approach capability for most first-line aircraft. The equipment (CONUS NAV PAK) will be designed to commercial standards and used in the civil environment. When aircraft deploy on tactical operations, the equipment will be easily removed.

The Army also took initial delivery of the proximity warning device. This device provides a relative position warning to pilots of similarly equipped aircraft. Since these devices were installed, no midair collisions have occurred in equipped aircraft. Proximity warning devices are to be used at Forts Bragg, Campbell, Hood, and Rucker in an effort to reduce midair collision hazards at these high-density aircraft locations.

During the past year the Army registered several gains in the development of equipment to improve aircraft and aircrew survivability. Development of a fuel system to withstand crashes was completed for the OH–6 and the UH–1, and progress was made in the development of a system for the CH–54. Work on safety seats for armored crews and troops was well under way, with design, fabrication, and crash impact tests completed and installation verified. Development testing of the individual survivor vest for aircrewmen was also accomplished, and engineering development of the OH–58 infrared suppressor, which would protect the aircraft from enemy missiles, was started.

The Army's Mobility Equipment Research and Development Center continued work on concepts and developments of camouflage nets, glare and electronic/infrared signature reduction, simulation devices, pattern painting, urethane outline disruptors, aircraft camouflage kits, and broadband suppression systems. The Army also cooperated with the Air Force in developing a camouflage scheme for airbases and aircraft shelter complexes.

A number of food service programs in the development stage moved forward during the year. The Army completed operational and development tests on a new expandable mobile field kitchen trailer capable of feeding 200 men. It has also developed the means of preparing controlled meat portions so that soldiers eating at troop messes will receive meat of the same quality and quantity. The Army and Marine Corps completed service testing of a packaged ready-to-eat meal—a probable replacement for the old C ration. Much lighter in weight and containing the same number of calories as the C ration, the packaged meal can be conveniently carried in the pockets of field uniforms.

Several significant actions were taken during the past year in the Army's helicopter development programs. The advanced attack helicopter (AAH) program continued on schedule, as both prime contractors proceeded with the design and fabrication of two flyable prototypes and one ground test vehicle. Component testing for the heavy lift helicopter (HLH) neared completion, but technical problems in power train components will probably delay the first scheduled flight of the prototype. Critical design review of the airframes for the utility tactical transport aircraft (UTTAS) developed by Boeing Vertol and Sikorsky Aircraft was completed in December 1973, while a revised General Electric T–700 engine to power the UTTAS successfully passed its final acceptance tests in March 1974 and delivery began in April. In early March 1974 a special task force at Fort Knox, Kentucky, began to develop system requirements for a new aerial scout helicopter program and will present its findings early next year.

Following operational tests conducted during October 1973, which established the effectiveness of the Cobra/TOW program as an antitank weapon system, an initial production contract was awarded to the Bell Helicopter Company in January 1974 to modify 101 basic Cobras (AH–IG's) to the Cobra/TOW configuration (AH–IQ). The October tests, however, brought to light performance shortcomings of the AH–IQ, resulting mainly from the added weight of the TOW missile subsystem. A development program was started in March 1974 to correct the shortcomings by improving the engine and drive train and increasing the gross weight capacity.

With regard to aircraft weapons developments, two competitive prototype automatic cannons for the advanced attack helicopter are in engineering development. Both will fire a medium-velocity 30-mm. round with a dual-purpose warhead. One gun is a three-barrel Gatling type. The other, a single-barrel design known as

the chain gun, employs a bicyclelike chain to operate the bolt, feed, and extraction mechanisms. Contractor efforts to improve the reliability and functioning of these weapons are to continue next year with a shooting competition to determine the best system for the advanced attack helicopter scheduled for fiscal year 1977.

The Army has two revolutionary gun and ammunition prospects in advanced development, the lockless and the advanced medium caliber automatic weapon system (AMCAWS–30). Both are fully telescoped and fire a 30-mm. high-velocity round. The ammunition for the lockless is rectangular and encased in plastic and that for the AMCAWS–30, cylindrical with an aluminum case. In addition to a slight savings in weight, both rounds take up approximately one-third less space than comparable conventional ammunition.

Two competitive prototype free rockets were developed in fiscal year 1974 as potential replacements for the 2.75-inch folding fin aerial rocket. Fin stabilization was used on one, and the other employed spin stabilization. Shooting competition is planned for next year.

The progression of Hellfire, a "helicopter fire and forget" missile system, into engineering development was deferred after user tests indicated that more operational testing of the system's laser seekers was required. Engineering development is scheduled to begin in fiscal year 1976.

In January 1974 the Deputy Secretary of Defense directed that development of the SAM-D surface-to-air missile program be more austere until the ability of the missile guidance system to track potential targets had been proved. The Army's RDT&E request for SAM-D was therefore reduced from $166 million to $111 million for fiscal year 1975. A new cost and operational effectiveness analysis performed at the request of Congress reaffirmed the merits of SAM-D as compared to other existing or conceptual ground-based high- and medium-altitude air defense systems. Despite a slowing down of the SAM-D program, progress was made in the system's development, the highlight of which was the successful acquisition and tracking of multiple inflight controlled test vehicles by a demonstration model fire control group.

For other missile systems, the development of a Lance nonnuclear warhead continued on schedule, and the Department of Defense approved a development program for a new terminal guidance package on the Pershing's propulsion system. This package was designed to improve accuracy, permit employment of

greatly reduced nuclear loads with no loss in effectiveness, and minimize collateral damage in the target area.

Development of the vehicle rapid fire system (Bushmaster), the proposed main armament for the mechanized infantry combat vehicle (MICV), was halted during the past year. Doubts had been raised about the desirability of procuring large quantities of a new caliber of ammunition to support the system, and there was a need to review requirements in view of technical intelligence gained from the October 1973 Arab-Israeli war. Also, recent developments in cannon technology had to be considered. To resolve these issues, the Army in January 1974 started a cost and effectiveness analysis on the Bushmaster. Meanwhile the PI M139 gun will serve as an interim weapon system for the MICV.

During fiscal year 1974 the FMC Corporation, contractor for the MICV, completed fabrication of two test rigs and the first prototype test vehicle, four months behind schedule. The delay was caused primarily by design changes, cost trade-offs, and late delivery of subsystems. The test rigs and prototype vehicle underwent extensive contractor tests to identify major problems in integrating the subsystems and to correct deficiencies. In June 1974 fabrication of twelve second-generation prototypes was started.

With regard to tank development, the XM1 program completed on schedule the first twelve months of a 34-month validation phase. For the M60A1 tank improvement program, contractor testing of components, which include top-loading air cleaners, an improved electrical program, tube-over-bar suspension, and an add-on stabilization system, resumed in September 1973 and was completed in April 1974. Development testing was started in February 1974, and operational testing is scheduled to begin during the first quarter of fiscal year 1975.

Prototypes of the armored reconnaissance vehicle (ARSV) were delivered to the Army Materiel Command for testing in November 1973. Training and Doctrine Command's reservations concerning the need for a special purpose, three-man vehicle to perform ground reconnaissance led to a three-phased reevaluation study on the validity of the ARSV program. Phase I of the study reaffirmed the Army's need for a ground reconnaissance vehicle.

Regarding the development of scatterable mines, the M56 helicopter-delivered antitank mine system completed development and operational testing and was type classified standard. Development and operational testing of the XM692E1/XM731 area denial artillery munition was suspended late in the year because of stability problems in the M483 projectile. Work continued on the

XM718 artillery-delivered antitank mine system, and the ground vehicle dispensed mine system entered engineering development. A joint plan for the triservice mine development program was also approved, and the Army's development of a rotary wing dispenser for the system was in an advanced stage.

Development of the squad automatic weapon (SAW) continued. The SAW is designed to increase the range and firepower of squad weaponry beyond that provided by the M16 rifle. Three contending prototypes were built and were undergoing initial testing and evaluation at the close of the fiscal year. A mid-caliber, lightweight ammunition that would provide the desired range was also being evaluated.

In other development activities during the year, durability testing on a prototype of the 155-mm. towed, medium howitzer, the XM198, revealed several deficiencies. After they were corrected, a tentative plan was approved in March 1974 for issuing the XM198. Durability testing of the first two prototypes completed under the light howitzer project, the XM204, was begun, and, as of 10 May, 5,000 rounds had been fired with no major breakdowns. The lightweight company mortar system was approved for engineering development. Also, development continued on the cannon-launched guided projectile (CLGP). Completion of the cost operational effectiveness analysis for the CLGP, however, was pushed back from June 1974 to July 1975 when difficulties were encountered during development and operational testing.

International Research and Development

Cooperation with the British in the research and development of cannon-launched guided projectiles progressed during fiscal year 1974. A draft memorandum of understanding was prepared in May 1974 whereby the United States would develop the projectiles and provide the British prototypes for testing and development data.

The joint American-French Javelot project was concluded during the year with all technical performance goals for the ammunition being met. This project was designed to test the feasibility of a short-range gun air defense system based on the directed or organized firing of a salvo of self-propelled 40-mm. projectiles launched from a multitube launcher. The Army is still considering whether or not to join with France in the further development of the Javelot system.

In the development of the AN/TPS–58 ground surveillance radar, the American version of the French Ratac, the United

States and France experienced reliability and maintenance problems. Development and operational testing, originally scheduled to begin in January 1974, was postponed pending discussions of these problems with the French government and the French contractor.

European candidates for the low-altitude, short-range air defense missile system (SHORAD) successfully completed testing during the summer of 1973. At meetings held on 7 December 1973 and 5 February 1974, the Army System Acquisition Review Council and the Defense System Acquisition Review Council firmly established the SHORAD requirement and authorized the requesting of proposal formulations. Meanwhile the United States consulted with the governments of France, the Federal Republic of Germany, and Great Britain for cooperative testing should one of the three foreign SHORAD contenders be selected.

In other international research and development matters, the Federal Republic of Germany announced that it would not develop a replacement for the Redeye air defense missile, but would consider using the Stinger, which was under development in the United States. The American-French-German Joint Studies Program on Bridging for the 1980s also was completed, and the Concept Study Team presented its recommendations to national authorities.

Materiel Acquisition

The table below lists appropriations in support of the Army's various procurement programs for the past three fiscal years. A more detailed description of 1974 acquisition programs, reflecting the overall downward trend set in fiscal year 1973, follows the table.

ARMY PROCUREMENT APPROPRIATIONS
(In millions of dollars)

Appropriation	Fiscal Year 1972	1973	1974
Aircraft	$ 106.4	$ 114.4	$ 173.8
Missile	1017.6	699.5	633.7
Weapons and tracked combat vehicles	148.6	242.8	300.4
Ammunition	1637.0	1271.2	1090.4
Other procurement	495.0	611.0	548.0
Total	$3404.6	$2938.9	$2746.3

Aircraft Procurement

The fiscal year 1974 Army aircraft appropriation provided $109 million for modification of existing aircraft, $32.3 million for spares and repair parts, and $32.5 million for support equipment

and facilities. The 1973 program for procuring twenty U–X aircraft, which had been canceled, was rejustified and approved by Congress, and procurement was started. Congress, however, has yet to act on a 1974 supplemental request totaling $22 million ($15 million for spares and repair parts, and $7 million for 2B24 synthetic flight trainers). As noted earlier in the report, conversion of 101 AH–1G Cobra helicopters to the AH–1Q Cobra/TOW configuration was under way. In addition, twelve OV–1B/C Mohawk surveillance airplanes were modified to the OV–1D configuration.

Missile Procurement

The fiscal year 1974 budget request for Army missile procurement amounted to $599.9 million, from which Congress deleted $42.8 million for the following: Safeguard procurement, $25.7 million; Lance adaption kits for allied countries, $4.7 million; funds to maintain a production base for the Pershing missile system, $4.5 million; and $7.9 million which was saved in contract negotiations for Dragon missiles. Congress also denied $10.5 million to buy five AN/TSQ–73 systems, but later restored the funds. A supplemental budget request of $84.4 million was submitted in January 1974 for 6,000 TOW missiles and repair parts for other missile systems. Congress appropriated $76.6 million.

The Army's surface-to-surface antitank capability was improved during the year. Procurement for TOW and Dragon missiles continued. Additional improved Hawk missiles and ground support equipment were got to replace the basic Hawk system in the Army inventory. Lance missile procurement provided for all but 194 missiles required to maintain the authorized acquisition objective and sustain annual firings through the first half of 1981. Funds were obtained for the Pershing missile, automatic reference system, and sequential launch adapter. The life extension and improvement of the Pershing system will continue. Improvement of the Nike-Hercules system was also authorized and funded.

Weapons and Tracked Combat Vehicle Procurement

The President's fiscal year 1974 budget request asked for $253 million in weapons and tracked combat vehicles for the Army. The request included the procurement of tanks, light-tracked recovery vehicles, tank turret trainers, incendiary rocket launchers, machine guns, and rifles; the high-priority modification of tanks,

artillery, assault vehicles, recovery vehicles, air defense guns, and machine guns; and associated support equipment, repair parts, and facilities. The appropriation act deleted $23.7 million from the request: $5.3 million for 34 tank turret trainers; $13.3 million for tank advanced procurement, of which $4.9 million was approved for transfer to other tank procurement; $1.7 million for special-tracked vehicle lighting kits; $3.5 million for XM198 howitzer advance procurement; $1.8 million for 2,400 M60 machine guns; $1.3 million for 303 M219 machine guns; and $1.7 million for engineering of tank modifications. The January 1974 supplemental request called for $121.8 million for weapons and tracked combat vehicles, principally for the procurement of armored personnel carriers, mortar carriers, 8-inch howitzers, and repair parts. Congress provided $71.1 million: $47.4 million for 133 M60A1 tanks, $3.7 million for 11 8-inch howitzers, and $20 million for repair parts.

Ammunition Procurement

Ammunition procurement continued to decline during fiscal year 1974, primarily because of significantly reduced support for allied forces in Southeast Asia. Meanwhile the Army was able to replenish training consumption and losses, procure selected ammunition for modern hardware, moderately buildup U.S. war reserves drawn down in prior years to meet Southeast Asia consumption requirements, and maintain an active production base for key ammunition items. For the seventeen-year program to modernize and expand the ammunition production base, now in its fifth year, over $650 million of a planned $4.1 billion has been obligated, and funding was recently increased to $300 million a year. The modernization of propellant and explosive facilities was essentially completed.

Other Procurement

The Other Procurement, Army, appropriation provided for tactical and commercial vehicles, including trucks, semitrailers, and trailers; communications and electronics equipment and strategic worldwide defense communications systems; and other support equipment, such as mobile assault bridges, construction equipment, materials handling equipment, generators, floating equipment, and medical support equipment. Expenditures (in millions of dollars) of the direct Army programs for fiscal year 1974 by activity were as follows:

Activity	Fiscal Year 1974
Tactical and support vehicles	83.5
Communications and electronics	191.7
Other support equipment	272.8
Total: Other Procurement, Army	548.0

Implementation of the Wheels study was approximately 65 percent complete as of 30 June 1974. When the study is fully carried out, the Army will have reduced its wheeled vehicle requirement from about 400,000 to about 300,000 vehicles, saved over $750 million in programmed procurements for fiscal year 1974 through fiscal year 1978, and reduced life-cycle costs by nearly $4.5 billion. Vehicles for the Army's three new divisions, however, will decrease the previously programmed net reduction attributable to Wheels. Moreover, commercial vehicles would be increased from 79,000 to about 120,000.

The Army continued to plan for the procurement of selected commercial vehicles as replacements for those of military design. Commercial 34-ton semitrailers, 40-ton low-bed semitrailers, and 1¼-ton trucks will be brought into the inventory during the next two or three years. The Army also considered leasing vehicles for the Reserve Components, but commercial leasing firms showed little interest. For heavy equipment transport and the high-mobility fleet, the Army will rely on military design, specifically for the 8-ton Goer high-mobility vehicle, 52½-ton semitrailer, and 22½-ton tractor. The commercial market failed to meet the qualitative requirements for a 22½-ton tractor, and the Army will use instead the M746 truck-tractor. Plans are under way to procure 655 M746's under a multiyear program beginning in fiscal year 1975.

Among other procurement matters, the Army started buying the forward area tactical teletypewriter, but it canceled a multiyear procurement contract for the AN/GRC–106 radio set. A new contract was awarded for this radio, with delivery to begin in fiscal year 1975. Because of delays in obtaining interference-free UHF frequencies, broadcast licenses, and approval for tower construction, the project to provide American television programs to Americans stationed in Europe will not be completed by August 1974 as expected. As a result of the delay, $12.5 million of the $23.4 million appropriated for the project in fiscal year 1972 was lost. Restoration of these funds was requested in the budget submission for fiscal year 1975.

XII. Special Functions

Civil Works

The Army's civil works responsibility, administered by the Corps of Engineers, involves many activities that promote the development, use, and conservation of the nation's water and related resources. These activities include the planning, design, and construction of reservoirs, levees, channel improvements, and shore protection works. Reservoir and waterway projects not only improve navigable waterways and provide flood protection, but they also furnish water for municipal, industrial, agricultural, and recreational use and in many cases generate hydroelectric power.

In fiscal year 1974 Congress appropriated $1.77 billion for the Army's civil works program, as compared to last year's $1.95 billion. The largest decrease was in general construction, which was funded at $873 million, $330 million less than in fiscal year 1973. Decreases were also noted in general investigations and in flood control and coastal emergency operations. Increases were made in other areas of the civil works program, and one new appropriation, special recreation use fees, was added. Funds were provided for 19 new construction starts, continuation of 209 construction projects, reimbursement of 2 projects of local interests, 2 special projects, 3 continuing land acquisition projects, and 1 continuing major rehabilitation project. Funds were also authorized for 16 new planning starts, 73 continuing planning projects, and 1 special study. The most heavily funded projects were Lower Granite Lock and Dam, Washington; Lost Creek Lake, Oregon; Libby Dam-Lake Koocanusa, Montana; Harry S. Truman Dam and Reservoir, Missouri; and Smithland Locks and Dam, Illinois, Indiana, and Kentucky.

Passage of Public Law 93–251 expanded the role of the federal government, including the Corps of Engineers, in the development of water resources. Also, the President on 5 September 1973 approved new guidelines for planning federally funded water resources development projects. These guidelines, entitled "Principles and Standards for Planning Water and Related Land Resources," were developed by the Water Resources Council and based on the work of an interdepartmental task force in which the Army played a key role.

During the past fiscal year the Corps of Engineers operated and maintained 263 locks, 178 dams, and 8 gate control structures

on some 25,000 miles of navigable waterways. A weekly average of about 20,000 watercraft passed through these locks and dams. The cost of this service, including the dredging operations required to keep the waterways open, was approximately $463 million for the year. The corps started a three-year, $1 million Inland Navigation System Analysis (INSA) program to increase the efficiency of the existing navigation system and to assure that the design and scheduling of improvements will meet future demands. A key segment of the new program is the accurate projection of tonnages to be moved by inland waterway transportation.

The acquisition of data on 55,000 dams, as authorized under the Dam Safety Act, continued. Data for nonfederal dams is being obtained for thirty-eight states and territories by local authorities and for the remainder by private engineering firms under Corps of Engineers supervision. Data for federal dams and for dams licensed by the Federal Power Commission were compiled by the federal agency having jurisdiction. The responses received indicated that existing dam safety programs varied greatly in scope; that there was an awareness of the need for supervision of dam design, construction, operation, and maintenance; and that a number of states and federal agencies have established new programs or strengthened existing ones.

The five pilot waste-water management studies noted in last year's historical summary were completed, as was a study on the Codorus Creek Basin in Pennsylvania. These studies provide several alternatives that states might use to meet standards established by the 1972 amendments to the Federal Water Pollution Control Act. Moreover, in cooperation with state authorities, a waste-water management plan for the Colorado River and certain of its tributaries was completed and approved by the Environmental Protection Agency.

The Corps of Engineer Urban Studies Program, an outgrowth of the waste-water management studies, was begun in 1972. It was expanded this past year with the start of twelve new studies and now includes twenty-eight. Two additional studies are scheduled for fiscal year 1975. Authority for each urban study, which normally takes three to four years to complete, was provided by a special resolution of the House and Senate Public Works Committees.

Construction by the Corps of Engineers of traditional flood control works, such as dams, levees, and diversions, amounted to $750 million during the past year. Other ways to guard against flooding, as provided for by the Water Resources Development Act of 1974, were also pursued. These included permanent evacuation,

relocation, and flood proofing; substitution of open-space flowage area for channelization; and preservation of natural storage. Although minor in relation to traditional works, these methods are expected to play an increasingly important role.

Funding for the Flood Plain Management Services program, which was authorized in 1960, was increased from a ceiling of $11 million annually to $15 million. The output of information and related technical planning has nearly doubled in the last four years, and 3,000 localities have been furnished flood plain information since the program began. The program emphasizes adjustments that communities can make on their own, including the adoption of flood plain regulations.

Traditionally, the Corps of Engineers has stressed the need for including recreational activities in planning and developing water resources projects in cooperation with state and local governments. While nonfederal public agencies have not often participated in recreation development under the provisions of Public Law 89–72 through fiscal year 1973, many of them expressed an interest this past year and several contracts were signed. A new administration policy on expending Code 710 funds for development of recreation facilities at completed projects became effective during fiscal year 1974. The new policy requires that nonfederal sponsors must agree to pay not less than 50 percent of the development costs and must assume responsibility for operation and maintenance of the recreation area upon completion.

Over the last several years it has become apparent that corps planning and development must expand the spectrum of family-related outdoor recreation facilities, if the recreational needs of the urban public and the desires of potential nonfederal cost-sharing partners are to be met. For this reason, the corps started a research study on urban recreation needs. This three-year study will evaluate all types of urban recreation facilities, for example, parks, open spaces, and cultural facilities and their relation to improving urban environment.

Waste-water treatment by application on the land was considered for fourteen recreational areas. This method provides tertiary treatment and nutrient removal for waterborne, vault, and trailer dump station wastes. Facilities at Arkabutla Lake, Mississippi, and Libby Lake, Montana, were operational this past year. Four more facilities are scheduled to become operational next year.

The intent of Congress to enhance the nation's fish and wildlife resources was emphasized by the passage of the Water Resources Development Act of 1974. Section 77 of this act amended the re-

quirements for local participation and provided for 75 percent federal and 25 percent nonfederal sharing of costs at projects not substantially complete on the date of enactment. It is expected that this incentive will encourage greater state participation in the program.

Environmental Protection and Preservation

Army responsibility for environmental protection and preservation involves both military and civil works programs. As a result of the 20 May 1974 reorganization of the Army staff, the Chief of Engineers exercises primary staff responsibility for directing and coordinating environmental matters affecting these programs, a responsibility formerly shared with the Deputy Chief of Staff for Logistics.

In the field, the larger commands have staff elements dedicated to the full-time management of their environmental programs and in many cases have established environmental committees to assist. At smaller commands responsibility for environmental matters is assigned to an existing staff office. At installations the facility engineer usually carries out environmental responsibilities, except at large military posts where personnel are assigned full time to perform this task. At many posts committees have been established to check on environmental programs.

All of the approximately 1,100 Army installations in the United States, its territories, and possessions were required to comply with federal, state, and local pollution control standards. Programs were started in recent years to meet this obligation, especially in the areas of air and water pollution control, solid waste management, and handling of hazardous and toxic materials.

Since the beginning of the air pollution control program in 1968, 149 installations have been identified as not conforming to established air emission standards. In order to correct the deficiencies, 432 projects have to be completed. Of these, 116 involved converting power and heating plants to less polluting types of fuel at sixty-five installations. Ninety conversion projects (78 percent) were completed before the onset of the energy crisis, and the remainder were reassessed. It was concluded that seven large heating plants would continue to burn coal and that collector or scrubber systems would be installed in lieu of conversion. At the end of the fiscal year, remedial construction was incomplete at about fifty of the 149 deficient installations. Because of the complex nature of the emissions and difficulties in procuring specialized equipment, approximately seventeen installations are not expected to be in full

compliance with established air pollution control standards until fiscal year 1976.

In water pollution control, progress was made in eliminating pollution caused by domestic and common industrial wastes, but control of pollutants produced in the manufacture of explosives and munitions was difficult because of the absence of proved treatment technology. A variety of chemical and mechanical treatments were tested, and in some instances prototypes were placed in operation. For example, the largest reverse osmosis unit ever built for industrial use was installed at Rock Island Arsenal. Treatment by the disposal of waste water on land was considered as an alternative to chemical and mechanical techniques, especially in those jurisdictions where stringent water pollution control standards were imposed. The first such system was installed at Hunter Liggett Military Reservation, and another was under design for Fort Meade. By the end of fiscal year 1974, approximately 120 of the 186 Army installations with water pollution problems were still not in compliance with established control standards.

In handling solid wastes at its installations, the Army looked for ways to reduce waste generation and lessen disposal requirements. Particular attention was given to reducing the packaging of wastes, recovering salable wastes for recycling, and disposing of residue wastes by contract or landfill. Approximately 90 percent of the Army's solid wastes were disposed of by landfill methods, at an annual cost of about $20 million.

For hazardous and toxic materials, federal regulations have imposed more stringent controls on the use of pesticides and cancer-producing chemicals and substances and on the prevention and cleanup of oil spills. A major task for the Army involved the safe disposal of large quantities of excess, nonregistered pesticides. In addition, extensive safety measures were taken in the disposal of chemical munitions, surplus drugs, and explosive wastes resulting from the manufacture of munitions.

Pollution caused by Army equipment was also a major concern. To control air pollutants emitted by Army vehicles of military design, the Army has started to convert to no-lead or low-lead gasoline, has developed a hybrid or stratified charge engine, and has evaluated lightweight diesel and turbine engines. For new, commercial vehicles procured since 1970, no major difficulties were encountered in complying with air emission standards, since a compliance certification by the manufacturer was required before purchase. The problem of noise is also a concern, and a program is under way to determine the internal and external noise levels of

certain military vehicles (2½ tons and smaller). To control oily bilge water and sanitary wastes, the Army is installing oil-water separators on approximately 1,000 watercraft and adding sewage holding tanks on 260 vessels.

Modern techniques were employed in the management of the 125 million acres under Army control. Forested areas produced millions of board feet of sawtimber and pulpwood which were sold and the funds, approximately $5 million annually, used for reforestation and forest management. In addition, extensive fish and wildlife programs were pursued for the protection and propagation of species and for sustaining sport fishing and hunting. On many large Army installations cooperative programs with other federal agencies helped to protect such endangered species as the red cockaded woodpecker and the Gila tap minnow.

Under the federal program to preserve historic properties, the Army has begun to survey and nominate military property as historic sites and structures. As of the end of calendar year 1973, thirty-four sites, including the U.S. Military Academy, the fortress at Fort Monroe, and certain quarters at Fort Myer were listed in the National Register of Historic Places. It is estimated that about a hundred historic sites or structures under Army jurisdiction will be included in the register.

Several measures are being taken to improve the environment of military installations and adjacent civilian communities. For example, in the master planning of installations the Army is concerned with architecture and location of individual structures. In typical activities to enhance community environment, the active Army, the National Guard, and the Reserve are cleaning rivers and streams of debris, collecting junk automobiles, constructing nature trails and parks, and participating in recycling drives. The Army's interest in community environment was also reflected by its support of the Keep America Beautiful and Johnny Horizon programs.

Environmental protection subjects were included in the curricula of most Army schools, and during 1973 approximately 1,600 hours of instruction, involving over 20,000 officers, cadets, and noncommissioned officers, were given. Equipment operators and mechanics were instructed on the control of equipment and vehicle emissions, and special programs were arranged at installations to promote environmental awareness. Examples of these programs were Conservation Day at Fort Eustis, Operation Helping Hand at Fort Hood, and Ecology Month at Fort Huachuca. Armed forces radio and television, special posters, installation newspapers, and the like were also employed to educate the Army on environmental matters.

In civil works, progress continued on the five-year research and development project to assess the environmental effects of dredging operations, develop satisfactory dredging and disposal alternatives, and study the use of dredged material as a manageable resource. At the instigation of the House and Senate Appropriations Subcommittees on Public Works, which were concerned over a General Accounting Office report that was critical of Army dredging operations, the Army awarded a contract to the Arthur D. Little Company to conduct a thorough study of Army dredging policies and practices. Pending completion of the study, a moratorium was placed on the modification and acquisition of Army dredges.

The environmental inventories for Vermont, Washington, North Carolina, and South Carolina, which were noted in last year's historical summary, were completed and published. Also, through contract with the Institute of Ecology, the Corps of Engineers compiled an environmental expertise resources directory to facilitate communication between engineers and ecologists. The directory lists individuals and organizations with the skills and interest to advise the corps, identifies their field of expertise and geographical region, and indicates their availability for consultation.

Environmental considerations are integrated into the planning of new civil works proposals and remain a central concern throughout the life of an approved project. Social and economic effects are also carefully weighed. About one out of every three major studies and projects started since the passage of the National Environmental Policy Act has been changed to accommodate environmental considerations. In addition, over 40 percent of the projects completed since the act went into effect have been modified for environmental reasons.

Army Energy Program

The Army began a formal fuel conservation program on 5 July 1973 by establishing fuel conservation goals for Army field commands and agencies. In comparison with fiscal year 1973 consumption rates, these goals amounted to a ten percent reduction in gasoline, diesel, and aviation fuels and a six percent reduction in petroleum heating fuels. On 8 November 1973, in view of the critical shortage of fuels, the Army Chief of Staff directed an additional ten percent reduction in the use of gasoline, diesel, and aviation fuels by the Army worldwide, including the Army Reserve and the National Guard. The Army also aimed to reduce heating in administration buildings and residential quarters by 15 percent. In January 1974, the Army revised its fuel conservation goals that called for a 15 percent reduction in the use of fuels for mobile

operations, residential heating, and industrial manufacturing and a 25 percent reduction for administrative space.

Although the Army energy conservation program emphasized the conservation of petroleum fuels, reduction in the consumption of electrical energy, natural gas, propane, coal, and purchased steam was also a major concern. A reduction of 7 percent was initially called for, but was later increased to 15 percent by the Secretary of Defense in January 1974.

During the past year the Army met the goals established under the energy conservation program, which are indicated in percentages in the table below.

ARMY ENERGY REDUCTION GOALS
FISCAL YEAR 1974

Installation Operations (Fifty States)	Quarter 1st	2d	3d	4th
Purchased electricity	3.6	11.2	16.3	15.2
Natural gas and propane	12.1	19.8	14.0	13.9
Fuel oil (heating)	9.4	23.0	20.9	23.2
Coal	11.0	13.6	12.8	6.7
Purchased steam	4.7	(21.7) [a]	4.4	38.1
Mobile Operations (Worldwide)				
Aircraft fuels	38.0	47.9	45.8	33 3
Distillates	40.0	32.8	37.8	16.8
Gasoline	25.0	20.6	25.9	24.7

[a] Percent increase over fiscal year 1973.

Focal point for energy matters at Headquarters, Department of the Army, is the Army Energy Office, which was established in November 1973 within the Office of the Deputy Chief of Staff for Logistics. The Special Assistant for Petroleum, a petroleum staff officer, and a clerk formed the nucleus of the new office, augmented by three temporary persons (two officers and one civilian). In May 1974 the authorized strength of the Army Energy Office was increased to eight permanent positions (five officers and three civilians). The mission of the Army Energy Office is to exercise Army staff supervision over energy matters by developing plans and policies for the allocation, supply, and use of energy reserves within the Department of the Army.

The Defense Energy Information System (DEIS) is an important management tool in developing a comprehensive energy program. Started on the basis of recommendations made by the Defense Energy Task Group in November 1973, the system provides reliable energy information and helps to identify potential energy problems. Two reports are already under way. DEIS–1 is a two-part report covering bulk petroleum fuel stockage, consumption, costs of fuels consumed, receipts, and sales. DEIS–2 is a monthly report of utility energy reflecting the consumption of purchased electricity, coal,

natural gas, liquefied petroleum gas, and steam and the stockage of coal and liquefied petroleum gas.

Emergency Operations

As in previous years, a major portion of the Army's disaster relief mission involved flood emergency operations by the Corps of Engineers as authorized by Public Law 84–99. This act was expanded in March 1974 to assure the availability of clean drinking water in localities where regular water sources are threatened with contamination.

In mid-December 1973, abnormally high rainfall in the Mississippi River basin raised the water to the highest winter level since 1919. For three and a half months, all four corps districts in the Lower Mississippi Valley Division and the Kansas City District combated the high waters and repaired damaged flood control works. The cost of repair was $19.5 million.

On 3 April 1974, a series of severe storms and more than a hundred tornadoes swept across the Ohio Valley and several southern states causing numerous deaths and injuries. Extensive damage occurred in Louisville and Cincinnati and in widespread areas of Alabama, Georgia, Illinois, Indiana, Kentucky, Michigan, North Carolina, Ohio, Tennessee, and West Virginia. At the request of the Federal Disaster Assistance Administration, corps districts in the stricken areas dispatched field teams to assess the situation and assist in the cleanup. Seventy-five contracts costing $3.8 million were let to clear the debris.

When a high concentration of asbestos fibers was discovered in the drinking water supply of Duluth, Minnesota, and nearby communities on the north shore of Lake Superior, the Environmental Protection Agency enlisted the support of the Army and other federal agencies to help resolve the attendant health hazard. The Corps of Engineers helped by designing, constructing, and operating a pilot water treatment plant and by dispatching an Erdlator water purification field unit to Duluth to test the water. The corps, under its survey program, will continue to investigate alternative water supplies and looks for solutions to Duluth's critical health problem.

As noted in last year's historical summary, the corps embarked on Operation Foresight, a program of emergency preventative measures to provide Great Lakes shore communities temporary protection against strong winds and high waters. To date, construction projects completed under the program have prevented an estimated $53 million in damages.

Civil Litigation

At the time of the troop withdrawals from Vietnam, many people believed that there would be a substantial drop in military cases being litigated in the federal courts. Although the number of cases processed during the past year by the Litigation Division, Office of the Judge Advocate General, has in fact decreased, the drop has been slight and the variety and complexity have increased. In sum, the Army's legal burden was considerably enlarged in 1974. This past year was also filled with legal decisions and new cases of great significance to the military.

On 19 June 1974, the Supreme Court upheld the court-martial conviction of former Army captain Howard B. Levy and further held that Articles 133 and 134 of the Uniform Code of Military Justice (UCMJ) were constitutional. This landmark decision will likely have a pronounced effect on future litigation because the court recognized factors differentiating the military from civilian society and the validity of several older Supreme Court opinions which tended to have a limiting effect on civilian judicial review of military actions.[1]

The language in the *Levy* decision and several other recent decisions lent support to the Army's position that the sole means of collaterally attacking a court-martial conviction was through the filing of a petition for a writ of habeas corpus and that it was necessary to exhaust all military remedies before a court-martial conviction could be challenged in federal court.

Three important cases arose out of off-post possession, sale, and transfer of marijuana and dangerous drugs. In each instance, pending courts-martial were enjoined by U.S. District courts on the grounds that they lacked jurisdiction because the offenses were not "service-connected" as required by *O'Callahan* v. *Parker*. The Third Circuit Court of Appeals, in *Sedivy* v. *Richardson,* and the Fourth Circuit Court of Appeals, in *Dooley* v. *Ploger,* reversed the cases because the plaintiffs failed to exhaust their military remedies. The third case, *Councilman* v. *Schlesinger, et al.,* involved a captain at Fort Sill, Oklahoma, who was charged under the UCMJ with possession, sale, and transfer of marijuana. The transfer and sale occurred off-post, and the buyer was a military police investigator. The captain sought an injunction to stop his court-martial, and the U.S. District Court for the Western District of Oklahoma granted

[1] The Supreme Court's decision did not end the Levy litigation. The case was returned to the court of appeals for resolution of certain issues raised by Levy concerning his sentence. Resolution of those issues, however, will have no effect on the Court's ruling on the constitutionality of Articles 133 and 134 of the Uniform Code of Military Justice.

it. The Tenth Circuit Court of Appeals sustained the injunction, holding that the offenses were not "service-connected." The Supreme Court agreed to hear arguments and review this position, but before oral arguments were held, requested briefs on the issues of the jurisdiction of the district court, the necessity for exhaustion of military remedies, and the propriety of a federal district court enjoining a pending court-martial proceeding. In view of the language in the *Levy* decision, there is a possibility that *Councilman* will be a landmark decision in limiting the scope of review in collateral attacks on court-martial proceedings.

On 11 February 1974 former lieutenant William Calley filed a petition for a writ of habeas corpus. At the time Calley also asked for bail pending a determination of the petition and for a temporary restraining order to prevent the Army from moving him to Fort Leavenworth. Judge J. Robert Elliott of the U.S. District Court for the Middle District of Georgia granted the temporary restraining order and, at the hearing on 27 February 1974, released Calley on a $1,000 personal recognizance bond. The government's motion to revoke bail was denied. However, the Court of Appeals for the Fifth Circuit reversed this decision on 13 June 1974 and ordered Calley returned to military control. The court of appeals in making its decision recognized that bail should be granted to a habeas corpus petitioner only in unusual circumstances. Subsequently, the Fifth Circuit Court of Appeals denied motions for rehearing, and the Supreme Court also denied an application for a stay of the lower court's order. On 24 and 25 June 1974, oral arguments were held before Judge Elliott on the merits of Calley's petition, and the case was still pending at the close of fiscal year 1974.

Meanwhile, the well-publicized granting of bail to Calley had a proliferating effect. Across the country a series of habeas corpus petitions were filed by soldiers seeking release from pretrial confinement in post stockades. A U.S. district judge in Colorado quickly denied relief in the *Kimball* case, and a U.S. district judge in Maryland similarly denied relief to Pfc. Robert K. Preston, the soldier who, on 17 February 1974, appropriated a helicopter at Fort Meade and landed it on the White House lawn. In this case the petition was denied for failure to exhaust remedies within the Army. Subsequently, Preston did exhaust his remedies, and the U.S. district judge denied a motion for rehearing. This denial was appealed and argument was heard before the Fourth Circuit Court of Appeals on 22 July 1974.

A series of suits were filed by officers who had been separated

through a reduction in force. The affected officers had more than four and a half years, but less than five years, of actual service at the time of their separation and sought readjustment pay under a statute which requires five years of active duty for such payments. A "rounding" provision in a subsection of the law provides that every period of service in excess of six months will be counted as a full year in calculating the amount of readjustment pay. This provision, the plaintiffs argued, should also be applied in calculating the service necessary for the entitlement to such pay. After various United States courts split in their interpretation of this statute, the Supreme Court held, in *Cass* v. *United States*, that an officer must have five full years of service to be entitled to readjustment pay. Because of the number of officers involved, an adverse decision would have cost the government in excess of $10 million.

In fiscal year 1974 it became clear that attorneys were becoming more expert in filing suits against the Army and federal courts more willing to intervene. These trends were best illustrated by the case of *The Committee for G.I. Rights, et al.*, v. *Schlesinger, et al.*, a class action in behalf of all soldiers in Europe that challenged the Drug Abuse Prevention Program of U.S. Army, Europe (USAREUR). During the extensive pleadings and hearings, Judge Gerhard Gesell of the U.S. District Court for the District of Columbia took the unprecedented action of ordering a review and revision of the USAREUR circular concerning the program and having it filed with the court before he finally decided the issues. In January 1974 he held that the health and welfare inspections which constituted a principal source of identifying drug abusers were unconstitutional, except for the limited purpose of getting drug abusers into rehabilitation programs. He prohibited the use of evidence resulting from such inspections for courts-martial or for administrative discharge proceedings awarding other than an honorable discharge. On 8 February 1974, the court of appeals stayed the execution of Judge Gesell's order and the government filed an appellate brief.

On 19 February 1974, another major suit was filed by American Civil Liberties Union attorneys in the U.S. District Court for the District of Columbia concerning U.S. Army intelligence activities in Germany and Berlin, *Berlin Democratic Club, et al.*, v. *Schlesinger, et al.* This suit purported to be a class action brought on behalf of all U.S. citizens overseas who wished to engage in lawful, constitutionally protected political, religious, and social activities. The plaintiffs alleged that the Army subjected them to illegally conducted electronic surveillance; intercepted, opened, and photographed their mail; infiltrated their organizations and meetings;

and prepared and maintained blacklists and intelligence files on them. They claimed various constitutional and statutory violations and asked for declaratory and injunctive relief, destruction of offending records, and monetary damages from the Army officials sued in their individual capacity. The government's 120-page motion to dismiss, or in lieu thereof for summary judgment, was filed on 7 June 1974.

The Army was still litigating the merits of the suit brought by Dr. Benjamin Spock and others seeking the right to carry their political campaign onto Fort Dix and to distribute literature without the prior approval of the post commander. The case was argued before the U.S. Court of Appeals for the Third Circuit.

Twenty new cases were filed during the past year under the Equal Opportunity Act of 1972. The majority of these involved complaints of race and sex discrimination in federal employment. Significantly, several of these suits were brought as class actions involving marked complaints of discrimination at various installations and activities.

In the area of environmental law, there were several attempts to impose state or local pollution control requirements on federal installations in a manner other than that specified in the Clear Air Act and the Federal Water Pollution Control Act. *Kentucky* v. *Rucklahaus et al.,* on 5 June 1974, was the first such case to be decided on by a U.S. court of appeals. This case upheld the Army's position that federal facilities need not comply with procedural requirements (such as the obtaining of permits) of state and local governments in respect to air and water pollution.

In litigation arising out of the Army's procurement activities, the flood of bid protests abated somewhat, chiefly because contractors had little success in such actions, but open files on contract cases continued to average around 260. One type of suit that became particularly frequent in the past year involved contractors seeking to show the U.S. Court of Claims that the Renegotiation Board erred in assessing them as having excessive profits.

Two Army contract case decisions during fiscal year 1974 were of particular significance. On 19 June 1974 the Court of Claims rendered decisions in *Roscoe-Ajax Construction Co., Inc.* v. *U.S.* which established an important new principle in the handling of disputes arising out of government contracts. After the 1972 U.S. Supreme Court decision in *S&E Contractors, Inc.* v. *U.S.,* there was considerable question as to whether the government could appeal an adverse Board of Contract Appeals (BCA) decision. In these two cases the contractor appealed portions of a BCA decision and

sought to prevent the government from contesting portions of BCA decisions that favored it. The Court of Claims held that BCA decisions sometimes resolved a number of distinct appeals and that at other times the issues involved were inextricably bound together. Where the plaintiff's claim and the government's counterclaim so legally and factually intertwined that they formed a unit, they should be decided together.

The Federal Torts Claim Act was amended on 16 March 1974 by Public Law 93–253 to provide for the payment of meritorious claims arising from assault, battery, false imprisonment, false arrest, and abuse of process when committed by a federal law enforcement officer. It is expected that the act will be liberally construed.

Collections under the Federal Medical Care Recovery Act met with resistance from several insurance companies citing a clause which specifically excluded the United States as a beneficiary of the policy's benefits. Several state insurance commissioners ruled that the policies violated public policy and disallowed them, and other commissioners required the companies to charge cheaper premiums to servicemen.

Medical malpractice cases became a more prominent subject of litigation, and a number of suits were filed against both the United States and the doctor in his individual capacity. The cases covered the spectrum of medical malpractice. Their complexity caused the Army to rely heavily on the Armed Forces Institute of Pathology to evaluate the medical records involved and for its opinion as to whether requisite standards of care were violated.

Promotion of Rifle Practice

The National Board for the Promotion of Rifle Practice (NBPRP) was established by congressional action in 1903 and conducts its mission under the authority of Title 10, USC, paragraphs 4307–4313. Marksmanship training programs, as well as certain competitive marksmanship programs, are carried out by the Office of the Director of Civilian Marksmanship. Appropriated funds for NBPRP programs amounted to $167,000 in fiscal year 1974.

With equipment and materials provided by the Army, the Director of Civilian Marksmanship furnished .22-caliber ammunition and appropriate targets and lent .22-caliber rifles to 2,700 junior rifle clubs with approximately 90,000 members from twelve through nineteen years old. Additionally, 5,300 undergraduates of ninety-five college clubs participated in this program. Some 400 medals were awarded to junior members who fired qualifying scores over approved courses of fire.

As in each year since 1968, the NBPRP authorized the National Rifle Association (NRA) to include four National Trophy matches in the program of the 1973 National Rifle and Pistol Championship matches at Camp Perry, Ohio, during August 1973. Sixty-nine teams, including twenty-five civilian teams, and 1,092 persons competed for trophies and medals in the 1973 National Trophy Service Rifle and Service Pistol events.

XIII. Summary

Fiscal year 1974 marked the completion of the Army's first year of transition from a wartime to a peacetime environment and from a personnel procurement system based upon a compulsory draft to an all-volunteer system which relied heavily on enhanced service attractiveness and professional pride to induce initial entry and retention in the Army. The Army resolved many of the difficulties associated with this transition, but a number of problems remain.

With the movement to a smaller force of volunteers, the Army needed more broadly qualified soldiers to ease the problems in assigning and managing its manpower. With this in mind the Army started a program to decrease the number of military occupational specialties (MOS's) and in the process reduce MOS mismatches as well. It tried new approaches to obtain qualified physicians in the absence of the doctor's draft. Through better planning and more gradual strength changes, it was able to handle excesses in a number of grades and career fields more efficiently. Yet, in reducing its strength by one-half from the Vietnam War peak, the Army had to release many who had served their country well.

During the past year the Army addressed the complexities of a new national concern, the energy problem, and continued to emphasize environmental protection. Meanwhile the Army looked to its military missions with energetic programs in such areas as systems and weapons development, logistics management, basic research, materiel acquisition, and training and education. It also started the affiliation program in recognition of the critical role of the Reserve Components in meeting future military needs.

Although the peacetime Army was at its lowest strength since 1950, its responsibilities did not diminish. General Creighton W. Abrams, Army Chief of Staff, in a statement to the Senate Armed Services Committee in February 1974, observed that the Army "must strive to get the maximum performance from each person and organization" to meet its national security mission in the current austere environment. That effort will continue during the coming year.

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