Department of the Army Historical Summary

Fiscal Year 1998

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

Department of the Army Historical Summary

Fiscal Year 1998

by

W. Blair Haworth

CENTER OF MILITARY HISTORY
UNITED STATES ARMY
WASHINGTON, D.C., 2005

The Library of Congress has cataloged
this serial publication as follows:

Library of Congress Catalog Card 75–09647561

ISSN 0092–7880

This summary was edited by Christine M. Cotting

CMH Pub 101–29–1

Contents

Tables

DEPARTMENT OF THE ARMY HISTORICAL SUMMARY

FISCAL YEAR 1998

1

Introduction

In late 1997, Iraqi President Saddam Hussein precipitated a series of crises threatening the settlement of the 1991 Persian Gulf War. In particular, Iraqi forces violated no-fly zones established by the truce and interfered with the United Nations weapons inspection teams tasked with neutralizing the Iraqi weapons of mass destruction programs. In response, the commander-in-chief of the U.S. Central Command moved to increase U.S. and allied forces in the area. More than thirty-five thousand U.S. military personnel, in addition to coalition forces, deployed to the Gulf, including a substantial ground component. In support of this multiservice, multinational force, Coalition/Joint Task Force-Kuwait (C/JTF-KU) was established in 1998 under the Third U.S. Army and the U.S. Army Forces Central Command (ARCENT). Although ARCENT headquarters were located at Fort McPherson, Georgia, the command already had a considerable forward presence at Camp Doha, Kuwait.

The C/JTF-KU involved forces and force pledges from eleven nations: the British Commonwealth powers of Australia, Canada, New Zealand, and the United Kingdom; Argentina, the Czech Republic, Hungary, Poland, and Romania, along with the host nation, Kuwait; and U.S. Army, Navy, Air Force, and Marine forces. U.S. soldiers and marines, however, formed the nucleus of the ground force with more than seven thousand rapidly deploying into the theater in February 1998. The emphasis was on rapidity; in less than fifteen hours after landing in Kuwait, soldiers of the 3d Infantry Division (Mechanized) drew pre-positioned equipment and established their battle positions in the desert. They had been ordered from their base at Fort Stewart, Georgia, less than ninety-six hours earlier. Despite this demanding timetable, 1st Brigade (-), the division ready brigade engaged in this deployment, reported as fully mission capable 99.7 percent of the seventeen hundred vehicles they drew from Camp Doha. These vehicles included Abrams tanks, Bradley fighting vehicles, and M109 self-propelled 155-mm howitzers, as well as the numerous other vehicles needed to support and sustain a modern heavy brigade.

The brigade deployed under air defense cover provided by the 32d Army Air and Missile Defense Command, which controlled all Patriot units in Kuwait, Saudi Arabia, and Bahrain, and successfully integrated new Kuwaiti Patriot batteries into the air defense structure. This marked the first time that coalition theater missile defense architecture had been established anywhere. Defense against the potential Iraqi nuclear, biological, and chemical threat

came from both U.S. and allied troops. The latter included Czechs, Poles, and Romanians using equipment and techniques developed only a few years earlier for potential use by the former Warsaw Pact against U.S. forces. Logistical support for the C/JTF-KU came from a mix of U.S. Army and Kuwaiti government sources. In addition to the relatively traditional functions of marshaling, sustaining, and protecting a combat force, the complex character of the theater of operations meant that the Army had to devote considerable effort to the conduct of legal, civil, and public affairs in planning its deployment and the possible subsequent military campaign.

This deployment, Operation DESERT THUNDER, was in many ways thoroughly characteristic of the operational environment the U.S. Army faced in fiscal year (FY) 1998: a rapid response required to address a sudden threat far from home, using diverse, far-flung forces, and conducted in the face of a potential threat from weapons of mass destruction, in a complex political environment, under intensive media coverage. The operation was carried out in the context of a National Military Strategy that reflected the fundamental change in the international environment accompanying the end of the Cold War.

Between the end of World War II and the collapse of Soviet power in 1989, the National Military Strategy was driven by the need for the United States and its allies to contain and deter Soviet expansionism through forward-based forces focused on global operations, potentially involving the wholesale use of nuclear weapons. After 1989, the nation faced a much different, more complex strategic environment. Wars between ethnic factions, the proliferation of nuclear, biological, and chemical weapons and the ballistic missiles to deliver them, and an increase in the scope and frequency of international terrorism all characterized the new situation. As a result, the twentieth-century U.S. emphasis on successfully fighting mid- and high-intensity wars gave way to near-continuous engagement in peacekeeping and nation-building work, among other low-intensity operations. At the same time, the requirement to address the previous spectrum of operations remained.

The National Military Strategy in FY 1998 had three main thrusts: (1) shaping the international environment in ways favorable to the United States and its interests, (2) responding effectively to threats and challenges to U.S. national interests, and (3) anticipating and preparing to meet future threats to the United States. The U.S. Army had a vital role in each of these aspects of the strategy. The Army shaped the international environment largely through its various presence missions, whether in peacekeeping operations, drug interdiction, or international training and military exchanges. FY 1997 had seen a daily average of 31,316 soldiers deployed in presence missions in more than one hundred countries. Although the trend was headed downward, in FY 1998 there was a daily average of 28,420 soldiers deployed to seventy-

six countries, plus more than 122,000 soldiers and Department of the Army civilian employees stationed outside the continental United States.

Overseas presence also helped the Army respond to threats and challenges to the United States. The National Military Strategy committed the Army, in common with the other U.S. armed services, to plan, train, and equip for two nearly simultaneous major theater wars (MTWs). The post–Cold War budgetary environment, where resources had been extensively reallocated after 1989 because of the absence of an overarching Soviet threat, made this a challenging requirement to meet. By FY 1997, Army buying power had declined by 39 percent and active-duty strength had slipped by 36 percent. Nearly seven hundred installations had closed. Force structure had decreased from twenty-eight to eighteen divisions. Procurement had decreased by 62 percent. At the same time, Army missions had increased by a factor of sixteen in the current international environment.

This conflict between shrinking resources and expanding commitments, taking place in the context of the two-MTWs requirement, shaped the structure and operation of the U.S. Army as it entered FY 1998. To reconcile the contradiction, the Army placed a premium on strategic mobility to meet contingencies, as shown in the DESERT THUNDER deployment, which the Army accomplished through the use of pre-positioned equipment stocks and elaborate logistical networks. Meeting extensive commitments with limited resources also demanded the most effective personnel possible in order to accomplish multiple missions under a comparatively low personnel ceiling. As a result, the Army put considerable effort into recruiting the best possible personnel, giving them thorough and demanding training, and retaining them. But in the post–Cold War situation, a strong civilian economy competed with the Army for recruits, and operational commitments complicated training. The strains of frequent deployment taxed soldiers and their families, especially in the face of the opportunities presented by a growing civilian labor market demanding workers with the technical and managerial skills imparted by Army training. Responding to this complex set of problems required the Army to improve the quality of life for its personnel, enhancing aspects of the financial, communal, and physical environments strained by the long drawdown. Doing so forced the service to employ its resources more effectively, largely through the use of technology to realize efficiencies in management, logistics, and training, but also through new human resources initiatives and difficult budget reallocations.

Technology also drove the Army's activity in the third thrust of the National Military Strategy, preparing to meet future threats to the United States. A fundamental technological threat was internal: addressing the "Year 2000" computer issue inherent in many Army systems, as well as those of much of the rest of the world. Inadequate software held the potential to wreak havoc on 1 January 2000 as outdated computer systems failed to adjust

properly to the new date. Matters also pressing for operational forces were the evolving and increasing dangers of nuclear, biological, and chemical weapons of mass destruction; proliferated ballistic missile technologies; and terrorist attack. Reorientation of force structure, equipment, training, and doctrine would be necessary to address effectively these interlinked and complicated threats. Similarly, it would be essential for the Army to address the military aspects of space, in particular the effects of space-based systems on the communications and reconnaissance necessary for the Army to use its powerful but scarce forces with maximum effect.

Recognition of the importance of these phenomena to achieving the Army's battlefield goal of information dominance also drove much of the service's effort to address future conventional-war threats. The Army, by necessity personnel intensive, has traditionally had the smallest portion (15 percent in FY 1997) of the Department of Defense budget for research, development, and acquisition. Nonetheless, the service has been developing and integrating new sensors, computing equipment, and communications networks. These devices promised soldiers and commanders at all levels unparalleled knowledge of their tactical and operational situation, enabling them to employ new precision-guided close combat and deep attack weapons with great effect. These "digitization" efforts culminated in the Advanced Warfighting Experiments, begun in FY 1997 and continued in FY 1998, which decisively demonstrated the power of the new systems.

2

Organization, Management, and Budget

Organization

The Department of the Army established a new major command (MACOM) at the beginning of FY 1998 by reorganizing and upgrading the Army Space and Strategic Defense Command (SSDC) and renaming it the Space and Missile Defense Command (SMDC). As was the SSDC commander, the SMDC commander is also the commander of the U.S. Army Space Command. The creation and organization of the new MACOM reflect the importance of space and missile defense to the Army and to joint forces. The command ensures that the soldier in the field has access to space assets and their products, and it provides effective missile defense for the nation and deployed forces. The SMDC integrates space and missile defense equipment into the Army and joint environments, conducts research and development, operates a Battle Lab facility to test equipment and train personnel, and serves as the Army proponent in the joint space and missile defense communities.

The SMDC, with headquarters in Arlington, Virginia, consists of five primary components. The SMDC Force Development Integration Center is located in Arlington. The U.S. Army Space Command (Forward) is in Colorado Springs, Colorado. Space and Missile Defense Technical Center, Space and Missile Defense Battle Lab, and the Space and Missile Defense Acquisition Center (SMDAC) are all in Huntsville, Alabama. The SMDAC's Huntsville facilities, the Joint Land Attack Cruise Missile Defense Elevated Netted Sensors Project Office, and the Ballistic Missile Targets Joint Project Office are supplemented by the High Energy Laser Systems Test Facility at White Sands Missile Range, New Mexico; the U.S. Army Kwajalein Atoll/Kwajalein Missile Range in the Republic of the Marshall Islands; and the Army Space Program Office in Alexandria, Virginia.

The Army Materiel Command (AMC) restructured or realigned a number of its subordinate commands and activities in FY 1998. At the beginning of the fiscal year, the AMC consolidated the Aviation and Troop Command and the Missile Command to form the Aviation and Missile Command and added the National Sustainment Maintenance Office to the Industrial Operations Command. On 15 January 1998, the AMC

provisionally organized the Soldier and Biological Chemical Command, which merged the Chemical and Biological Defense Command and the Soldier Systems Command.

Management

The National Performance Review began in March 1993, with the goal of creating a more effective and efficient federal government. In conjunction with the Department of Defense (DOD), the U.S. Army has pursued the goals of the National Performance Review through its National Partnership for Reinventing Government initiative. To reinvent its business practices, the DOD designated certain organizations in which experiments in business process reengineering from first principles—"reinvention"—could be fostered through encouragement of prudent risk taking; removal of bureaucratic barriers; and linking of authority, responsibility, and accountability. Within the Army, forty-seven such activities are designated "reinvention laboratories." This number includes four new reinvention laboratories established in FY 1998: Dental Command; Test and Evaluation Command; Intelligence and Security Command; and the Medical Command Activity at Fort Knox, Kentucky. The reinvention labs are complemented by higher commands designated as "reinvention centers." Of the six reinvention centers, two—the U.S. Army Medical Command and the U.S. Army Special Operations Command—were established in FY 1998.

The commanders of reinvention laboratories and centers are delegated broad powers to establish their own labs, to waive regulations in support of reinvention initiatives, and to coordinate directly with the DOD regarding legislative changes to support reinvention. During FY 1998, twenty new waivers to DOD and Army policies were approved for implementation by Army organizations (thereby making a total of 333 waivers to DOD and Army policies approved since 1994). The Army continues to achieve the President's Best Practice award for approving reinvention waivers within thirty days by authorizing reinvention commanders and directors to locally approve waivers to Army policy—an effort that has met with sufficient success to enable the service to work with the Office of the Secretary of Defense (OSD) during FY 1998 to design and implement a process for achieving the same goal for DOD regulations. In FY 1998, seven reengineering proposals from the MACOMs, reengineering centers, and reengineering laboratories passed through the Army Staff's Reengineering Legislative Working Group, which oversees the Reengineering Legislative Change Process. The Army submitted two proposals to the OSD for incorporation in the supplemental FY99 Program Budget. A third proposal was considered favorably and forwarded for inclusion in OSD working legislation for FY00 for review by the Office of Management and Budget.

The Army's success in its reinvention efforts was recognized with awards in FY 1998. Through the National Partnership for Reinventing Government, the vice president awarded twenty-three Hammer Awards to Army teams, the winning organizations' work having saved more than $496 million. The U.S. Army Aviation and Missile Command received the Secretary of Defense Award for Reengineering Excellence for reengineering and testing the DOD travel system in a manner that meets operational mission needs with better service to the customers and less cost to the government. The DOD selected the Longbow Missile Joint Venture Cost Reduction Program as the industry recipient of the 1998 Life Cycle Cost Award. This program was considered an outstanding example of industry and government collaborating to achieve dramatic savings without compromising product quality. Fort Carson, Colorado, received a Federal Achievement Award for Customer Service for innovative programs, such as its Direct Support Plus maintenance program, which have saved $20 million and have provided better maintenance for units, resulting in higher readiness. Four Army individuals or small groups earned the Secretary of Defense Productivity Excellence Award for efforts resulting in a total saving of $12.8 million.

The Army's Leasing Initiative, developed by the Resource Analysis and Business Practices Office of the Office of the Assistant Secretary of the Army (Financial Management and Comptroller), in association with the Office of the Assistant Secretary of the Army (Installations, Logistics, and Environment), sought to remedy financial problems at Army installations by selecting private-sector firms to work with the Army to maximize the value of installation property currently needed but not fully used, with an eye to enhanced facility maintenance and repair, new revenue streams from outleasing, and reduced overhead costs. In FY 1998, the Army identified three installations to test the new strategy: Yuma Proving Ground, Arizona; Picatinny Arsenal, New Jersey; and Fort Sam Houston, Texas. This initiative was expected to earn the Army an estimated $20 million in revenues as well as an unknown amount of in-kind remuneration. At the same time, the Army was moving units from commercially leased space to renovated Army facilities. In FY 1998, four Army activities moved from leased space, with an additional twenty-one activities to be moved by FY 2001. Additional savings were also realized from the Army segment of the base realignment and closure (BRAC) initiative, as the program continued the trend of net savings begun in FY 1997. FY 1998 saw the continuing pursuit of the twenty-nine Army installation closures and twelve realignments specified in the 1995 BRAC round.

In response to DOD direction to eliminate open allotments and gain front-end control over funds, in FY 1998 the Army changed its method for disbursing funds covering per diem and travel expenses for soldiers attending mandatory training, such as the Basic Noncommissioned Officers Course.

The Military Training Specific Allotment (MTSA) replaced the Military Training Open Allotment (MTOA). Under the MTOA, individual stations citing such funds did not know how much money was used, nor did they know how much money was in the account. As a result, the Army had no definitive means to determine how much was spent until the money was disbursed, and the stations had no incentive to conserve funds. The Office of the Assistant Secretary of the Army (Financial Management and Comptroller) managed the transition intensively to ensure that the shift from open allotment to specific funding would have no impact on training. In FY 1998, the Army also made the decision to execute the MTSA funding in the mission accounts of each major command instead of the institutional training account in the FY99 funding letter. Doing so standardized the management procedures for MTSA funds with those used for other Operation and Maintenance, Army (OMA), programs.

The Army Audit Agency continued phase II of a restructuring effort started during FY 1994 by moving to create a more flexible and responsive organization covering functional areas through the use of audit teams. By increasing functional expertise, this initiative was expected to decrease turnaround time for audit engagements. The auditor general of the Army approved the concept for implementation in FY 1999. He also approved the concept of incorporating the official Army position into final audit reports. This process requires auditors to work with clients to develop feasible recommendations addressing problems identified by audit. The auditors must also work with clients to obtain the official Army position on the audit report before, rather than after, publication. Reduced turnaround time was an FY98 priority for the Army Audit Agency. Notification time for informing Army customers of impending General Accounting Office or DOD Inspector General action fell from one week to forty-eight hours, for instance. Much of this efficiency was gained by incorporating electronic information technology systems into agency operations. During FY 1998, the agency issued 445 reports, resulting in potential monetary benefits of approximately $1.602 billion.

The U.S. Army Cost and Economic Analysis Center (USACEAC) carried out a variety of activities in FY 1998. It participated in development and review of cost estimates for numerous major Army weapons and information systems. The center presented briefings on the Total Ownership Cost concept to civilian and DOD forums and chaired several cost subgroups, including those for the Army Models and Simulation Standards Workshop and the Consolidation of Army Testing General Officers Steering Committee. In addition, the USACEAC participated in numerous professional seminars and provided expert consulting services to a variety of Army agencies. The center continued to improve methodologies for cost factors and cost data collection, implementing one for the IMPAC credit card in the National Guard and

another intended to ensure that Integrated Sustainment Maintenance repair costs are attributed to the correct major commands. The USACEAC also developed cost factors for use in the Training Resource Model employed in development of the FY00–05 Program Objective Memorandum (POM 00–05).

In the early part of FY 1998, the chief of legislative liaison initiated a number of actions intended to improve Army–congressional relations. To enhance the Army's effectiveness in the congressional authorization and budget processes, the chief of legislative liaison directed his military assistant to chair a council of colonels to establish a proposed set of top legislative priorities, later known as the Top Ten. These priorities became a key tool in helping the Army remain focused on its legislative objectives. Beginning in July 1998, two officers were assigned to work on congressional strategy matters for the chief of legislative liaison. One of these officers' long-term projects was to develop a system that would help ensure that every member of Congress had contact with an Army general officer. The senior Army leadership approved the system, with implementation projected for May 1999. The chief of legislative liaison wanted to educate current and future Army leaders about the need to work well with Congress. From the early spring of 1998, the chief of legislative liaison regularly spoke to the Garrison Commanders' Course, the Capstone Course for Brigadier Generals, and the Army War College Class (including all fellows), as well as at the conference for new brigadier generals. He also initiated action to have an entire edition of *Military Review* (April/May 1999) devoted to Army–Congress relations.

During FY 1998, Congress took a strong interest in a number of Army-related issues. The Army and DOD position that favored gender-integrated training created considerable debate. In the Senate, an amendment was attached to the Defense Authorization Bill that would have ended gender-integrated training, but Senators Olympia Snowe (R-Maine) and Max Cleland (D-Georgia) sponsored an opposing amendment that passed. As a result, Congress appointed a commission to review gender-integrated training throughout the DOD and to make recommendations in FY 1999. A number of members of Congress also took a strong interest in the Army's School of the Americas at Fort Benning, Georgia. There was an attempt to terminate funding for the school, but the legislation failed on the House floor. A liaison officer in the Investigations and Legislation Division worked closely with the deputy undersecretary of the Army for international affairs to educate many members of Congress about the merits of the school.

During FY 1998, the Office of the Chief of Legislative Liaison (OCLL) escorted members from oversight committees on sixty-eight trips to observe Army programs and activities. This marked a significant increase from previous years. The OCLL also initiated a plan to escort junior congressional staff members to various Army posts and Civil War battlefields. In October

1998, this program, known as Army Days, was scheduled to take its first trip (to Gettysburg) with more than one hundred staff members. During FY 1998, the OCLL's field operating agency, the Congressional Inquiry Division, responded to more than thirty-two thousand written letters from members of Congress and one hundred thousand telephonic requests. The Congressional Inquiry Division also prepared 810 responses for signature by senior Army leaders and continued its mission of notifying members of Congress about Army contract awards that exceeded $5 million. In FY 1998, there were 887 contract award notifications sent.

Information Systems

The Army's major information systems priority in FY 1998 was the "Year 2000" (Y2K) problem. Y2K problems arose in older computer software that allotted only two digits to calendar year (for example, by recording "1998" as "98"). This characteristic had the potential to lead to problems ranging in scale from minor to catastrophic when such software attempted to process information containing dates for the year 2000 and later. Twenty-first–century dates would thus be rendered as twentieth-century dates ("1901" rather than "2001," for instance) with a resultant disruption of date-based calculations. The Army placed items possibly subject to Y2K problems in one of three categories: computers and networks, telecommunications, and facilities infrastructure, with the first two categories classified as information technology (IT) and the third as non-IT. Items in the facilities infrastructure category included traffic lights, water pumps, card access readers, fire alarms, and elevators, as well as heating, ventilation, and air conditioning systems. The Army's installation infrastructure was generally resistant to the Y2K problem. Because of low funding levels, installations have generally continued using older analog systems rather than more modern digital systems. The Y2K problem generally either did not affect these older systems or affected them in ways easy to bypass. Most weapons systems were not affected by the Y2K problem because they did not process calendar dates. However, many other Army systems, especially computing systems concerned with personnel, finance, and logistics, contained substantial amounts of software code carried over from older systems that rendered them susceptible.

The Y2K Program Office of the Office of the Army Director for Information Systems for Command, Control, Communications, and Computers (ODISC4) carried out initiatives to ensure that the Y2K issue did not threaten the Army's ability to execute its assigned missions before, during, and after the year 2000. The Y2K Program Office, working under the auspices of the Army's chief information officer (CIO), was responsible for establishing Army Y2K remediation policy and guidance, determining and reporting the status of Y2K remediation efforts throughout the Army, and

working with other government agencies and the private sector in addressing the overall Y2K issue.

The Y2K program in the Army began around June 1995, resulting in publication of the first Army Project Change of Century Action Plan in March 1996. In FY 1998, the Y2K Program Office tracked the Y2K remediation status of more than twenty thousand Army automated information systems (AISs) and half a million IT-controlled devices, whose Y2K-related software errors were estimated to cost nearly $400 million to fix. A later-developing component of the Y2K program was an effort, led by the assistant chief of staff for installation management in coordination with the Y2K Program Office, to forestall potential Y2K problems in infrastructure systems involving 140,000 buildings with 800 million square feet of space. Significant activities of the Y2K Program Office during FY 1998 included the completion of collaborative work resulting in Federal Acquisition Regulations requiring specific Y2K clauses in all IT contracts, effective 1 October 1998. The Army Y2K homepage was totally redesigned and updated. Additionally, a Y2K database accessible through the World Wide Web was established, providing the capability to maintain real-time status reporting on Y2K efforts on all Army systems. This initiative significantly improved the accuracy and timeliness of Y2K information, and thus enhanced the CIO's ability to manage the overall Army Y2K program. The initiative also responded to Y2K reporting requirements of the OSD, the Office of Management and Budget, and Congress. The Army's Y2K Action Plan was updated to provide more detailed guidance on system-criticality coding to establish priority for assessment and remediation, on conducting Y2K risk assessments, and on creating interface agreements, contingency planning, testing, and system certification requirements. The action plan further addressed the expanded role of the installation commander in fixing the Y2K infrastructure problems in the sustaining base.

The Army took steps to coordinate Army Y2K remediation efforts in FY 1998. These included two major in-progress reviews with guest speakers from the DOD and the commercial sector and participation by Headquarters, Department of the Army staff, MACOM staffs, and program executive officers (PEOs). In addition, the Army Y2K Program Office participated in more than sixty OSD-sponsored Y2K Interface Assessment Workshops, which provided an avenue for information exchanges with the other armed services and with allied countries to ensure that system interface information was current and complete. This process resulted in a more comprehensive view by the DOD of the interrelationships of service, DOD, and allied country systems. The Army also conducted a Y2K Industry Day to provide Army system managers with information on Y2K automated tools and services available within the private sector that could help them in executing their Y2K responsibilities. Additionally, throughout the year, the Army

CIO, as well as the vice chief of staff, Army, and the undersecretary of the Army, participated in monthly DOD Y2K Steering Group meetings. These meetings, chaired by the deputy secretary of defense, reviewed Y2K status throughout the DOD and addressed critical policy issues concerning Y2K within the department. The Army began major efforts in FY 1998 to develop plans for end-to-end testing of mission-critical systems and functions in an operational environment in conjunction with the Joint Chiefs of Staff and the OSD staffs.

In August 1998, the secretary and deputy secretary of defense directed the services and defense agencies to develop a joint Y2K operational evaluation plan by 1 October 1998. In response, the secretary of the Army, through the ODISC4, issued guidance to bring the Army into compliance by 4 September 1998. Army system owners (commanders, deputies for systems acquisition, PEOs, and program managers) were directed to verify the Y2K status of all major systems under their purview. All interface agreements for mission-critical systems were to be completed and entered into the Army Y2K database prior to the 1 October deadline. System owners were to review and update their parts of the Army Y2K database to validate each major system's classification as mission-critical or non–mission-critical and to ensure that all major systems were included. The assistant secretary of the Army for research, development, and acquisition was directed to ensure that all Army contracts for information technology or national security systems that processed date-related information had the Y2K requirements (specified in Section 39.106 of the Federal Acquisition Regulations) included by 1 October 1998.

In FY 1998, there were continued improvements to the automated information system supporting the Army Operations Center (AOC). This included a sizable expansion of the unclassified local-area network (LAN), implementation of a browser-based automated message-handling system (AMHS), increased use of the AOC Web page, and implementation of a multitiered approach to information system security. An additional seventy-three workstations were directly connected to the AOC's unclassified LAN. In addition, remote dial-in capability was added to the AOC network to enable action officers traveling on assignments to dial into the unclassified LAN. This permitted the action officers to stay current with activities in the AOC, review and respond to e-mail, pass onsite mission-related information back to headquarters, and respond to pressing actions. This capability proved especially beneficial to those action officers engaged in military support activities at field locations. On the classified system, the new browser-based AMHS improved performance while it provided action officers with a user-friendly graphical interface. Anyone who routinely used a Web browser when accessing the Internet was able to readily use the new application with minimal training.

During the past several years, AIS security tools had been unable to keep up with increased user demands for new and improved systems caused by the explosion in IT. In FY 1998, there was a resurgent emphasis on securing the AIS, both Army- and DOD-wide. In keeping with this enhanced security posture, a multitiered approach to securing AOC systems was implemented. This included a requirement for user and administrator training with an emphasis on security, the routine publishing of security alerts and tips, a renewed emphasis on audit log analysis, and the implementation of multiple layers of hardware and software tools specifically designed to protect the systems and the information they contain. Specific FY98 security enhancements included the installation of an intrusion detection system to detect possible hacker activity, a firewall capable of allowing access only to valid military users and further limiting the type of access permitted by any users, the deployment of virus-scanning software capable of detecting and correcting known viruses on all AOC servers and client workstations, and the development of audit data-reduction tools to assist security personnel in processing substantial bodies of security audit information.

Title 44, U.S. Code, section 3101, requires federal agencies, including the Army, to make and preserve agency records that contain adequate and proper documentation of their organization, functions, policies, decisions, procedures, and essential transactions. Section 3102 of Title 44 requires agencies to establish and maintain an active, continuing program for the economical and efficient management of their records. Studies and events in preceding fiscal years (notably the lack of documentation for the Persian Gulf War effort) indicated the need for an improved records management system in the Army. During FY 1998, the Office of the Deputy Chief of Staff for Personnel (ODCSPER), and the Adjutant General Directorate (TAGD), U.S. Total Army Personnel Command (PERSCOM), sponsored a series of assessments and process improvement sessions relating to Army record keeping. Resultant ODCSPER guidance was to direct effort in three areas: contingency operations, record-keeping redesign, and planning for electronic records.

Initial actions taken to stem the loss of records from contingency operations were the development of a quick-reference guide for issuance to deployed soldiers and an emergency guidance message to reside in the AOC. The guide lists the minimum records that must be created, specifies collection frequency, and locations to which collected records are to be transferred. The Department of the Army developed and stored in the AOC a message to be released to the appropriate Army combatant commander when a contingency operation is declared. The message provides instructions for record-keeping requirements during the operation. Until a wholesale redesign of Army record keeping could be effected, these were interim solutions. A series of sessions involving records managers and non-records Army action officers

resulted in the potential elimination of 102 of 105 user steps in the record-keeping process. This served as the basis for a record-keeping redesign concept: Responsibility for records retention was transferred from units and offices to a centralized records-holding area; thirty-eight different retention periods were compressed into seven; and each Army regulation would contain a matrix indicating whether to keep or transfer records generated by the regulation.

In FY 1998, increased usage of, and dependence on, electronic records resulted in the development of the Army Information Warehouse (AIW) concept for efficient management of both hard copy and electronic Army records. The two major components of the AIW were the Army Electronic Research System (AERS) and the Army Electronic Archive (AEA). The AERS allowed for record searches via a central index, regardless of the records' physical location or media type. The AEA provided a central storage facility for Army activities lacking the local capability to maintain electronic records. In related records activity, the Records Management Division, TAGD, PERSCOM, established an electronic reading room to give the public access to frequently requested Freedom of Information Act (FOIA) documents; issued a citizens guide for requesting records under the FOIA; and revised and published AR 25-55, The Department of the Army Freedom of Information Act Program, 1 November 1997. The U.S. Armed Services Center for Research of Unit Records (CRUR) conducted nine S–3/G–3 Recall Gulf War Conferences, adding more than 164,500 grid points, latitudes, longitudes, and place names to the DOD Persian Gulf Registry established and maintained by the CRUR. During FY 1998, the CRUR continued support to the Office of the Special Assistant for Gulf War Illnesses on various issues. The center received 5,491 cases that involved Gulf War, Agent Orange, and post-traumatic stress disorder matters.

Army personnel systems made considerable strides in automation in FY 1998. The Standard Installation/Division Personnel System-3 (SIDPERS-3), the computer hardware and software that made up the U.S. Army's next-generation automated field personnel management information system, replaced all versions of the SIDPERS-2. As the only proven Y2K solution for the SIDPERS, the SIDPERS-3 provided a bridge for the Army to the future all-service automated personnel system. Fielding of the SIDPERS-3 began with initial implementation between July 1996 and December 1997 at Aberdeen Proving Ground; Fort Jackson, South Carolina; Fort Drum, New York; Fort Bragg, North Carolina; Fort Benning, Georgia; and Fort Campbell, Kentucky. Implementation of the SIDPERS-3 at these installations raised major issues concerning reassignment processing, data reconciliation and synchronization, and error management. To assist in the resolution of these issues and smooth future transitions to the SIDPERS-3, the Enlisted Personnel Management Directorate (EPMD) of the PERSCOM established

a short-term SIDPERS-3 task force under the TAGD, PERSCOM, to create functional procedures to assist field users in processing reassignments and other related enlisted personnel matters. The task force was succeeded by an EPMD SIDPERS-3 Task Force Section to review EPMD-related personnel processes at previously fielded SIDPERS-3 installations, assist installations prior to and following initial SIDPERS-3 activation, and provide continuing support of SIDPERS-3 fielded sites. The Task Force Section served to resolve SIDPERS-3–related problems by acting as the liaison between field users and field systems managers.

The Personnel Electronic Record Management System (PERMS) is an automated document management system that replaced the Army's paper and microfiche military personnel record-keeping architecture. The PERMS, which consists of commercially available optical digital imagery technology, enhanced military record quality and optimized record storage and retrieval operations at PERSCOM agencies, including the Management Support Division of the TAGD and the U.S. Army Enlisted Records and Evaluation Center of the TAGD, along with the U.S. Army National Guard Readiness Center and the U.S. Army Reserve Personnel Command. The PERMS was originally managed by the AMC Program Executive Office, Standard Army Management Information Systems (PEO STAMIS). During FY 1998, the ODCSPER took over the responsibility for program management (including budget, configuration management, systems integration, and maintenance) from the PEO STAMIS. The ODCSPER assigned to the PERSCOM the PERMS management responsibility, and the PERMS Program Office was accordingly established under the Personnel Enterprise Systems Integration Office of the Personnel Informational Systems Directorate (PERSINSD). Handover of the PERMS program management responsibility to the PERSCOM was completed on 1 October 1998.

The Inter-Component Data Transfer (ICDT) system was developed to provide the automated capability of transferring data between the Total Army Personnel Database (TAPDB)-Active and TAPDB-Reserve/Guard databases at the time of a change in a service member's activation status. The system has also provided a consolidated source of enlisted accession data from the U.S. Army Recruiting Command Army Recruiting and Accession Data System (ARADS) to the TAPDB. During FY 1998, all of the ICDT software was tested and certified as Y2K compliant. Much of the focus of the ICDT project office in FY 1998 has been on the issue of mobilized soldiers arriving at mobilization stations before their automated record arrived. The two major problem areas were failure of the Reserve field system to pass to the Top of the System software data communicating intent to mobilize and data interface breakdown between the active Top of the System and its new field system, the SIDPERS-3. The ICDT system was originally envisioned as a necessary step in modernizing the TAPDB. That modernization is now

referred to as the Integrated TAPDB (ITAPDB), which was in initial concept design stages. The immediate focus of the ITAPDB was on resolving issues in the mobilization process, the development of an ITAPDB-Mobilization automated functionality using a commercial off-the-shelf product, and the coordination of any ITAPDB concept with that of the DOD Integrated Military Human Resources System.

During FY 1998, the Army continued to improve its existing recruiting information system while developing and fielding the successor system. The ARADS is the incumbent system for collecting and processing all information regarding every new enlistee into the Army, Army Reserve, and Army National Guard, and then forwarding this information to the TAPDB. The ARADS also distributes to the recruiting force hundreds of thousands of records concerning recruiting leads, and electronically interfaces with both the Military Entrance Processing Command system for information on applicant processing and the Keystone-Recruit Quota System for making training seat reservations. In addition, the ARADS serves as the command's military personnel management system. FY 1998 encompassed the last two option periods of the extended ARADS contract. During the fiscal year, the plan for movement from the ARADS to its successor system was completed. The plan allows the ARADS to continue functioning by using new client-server equipment until its successor system, the Army Recruiting Information Support System (ARISS), is fully implemented. The deployment of new ARADS client-server equipment, which was completed during FY 1998, is expected to result in substantial savings to the government before the ARISS reaches full operational capability (projected for FY 2001).

The ARISS was formerly the Joint Recruiting Information Support System (JRISS), which was abandoned as a joint system because of inadequate funding and the difficulty of achieving commonality. The ARISS offers single data entry, a common database and operating environment using DOD standardized data, commercial off-the-shelf software and hardware architecture, office automation and multimedia sales presentation mobility using the laptop recruiter workstations, desktop units for supporting staff, and servers. This fully integrated system led to multiple improvements in efficiency for the Army recruiting community. During FY 1998, the ARISS program took advantage of the aggressive development momentum of the JRISS. The ARISS, which was tailored specifically for the Army, pursued the functionality goals of the earlier Army Recruiting 2000 initiative. An on-site project manager, under the direction of the PEO STAMIS, managed the ARISS. The ARISS project management office reviewed and selected emerging development technologies in several areas, including relational databases management systems; high-performance client-server architectures; portable, mobile-office computing; multimedia presentations; graphical user interfaces; and data administration using standardized data

managed through computer-aided software engineering tools. At the end of FY 1998, a communications system was in place, state-of-the-art sales video programming was available on laptop platforms, and the DOD goal of single data entry was supported through efficient graphical user interface screens.

The Defense Casualty Information Processing System (DCIPS) is intended to provide a standardized, integrated casualty support system for use by all services in peacetime, mobilization, and wartime. Although the DCIPS is a DOD system, its software is written and maintained by the PERSCOM. The DCIPS is expected to provide standard automated support for the management of casualty and mortuary affairs by each service's casualty office and mortuary affairs office. During FY 1998, the DOD provided additional funds for the continued transfer of data and operations from the predecessor system, the Army Casualty Information Processing System Graphical User Interface (ACIPS-G), to the DCIPS. These funds also allowed for the purchase of a server and workstation running Microsoft Windows NT for the DCIPS help desk. The PERSCOM PERSINSD, assisted by the same contractors who developed the ACIPS-G, planned the transition from the ACIPS-G to the DCIPS, as well as the continuing technical support and maintenance of the DCIPS. The DCIPS Migration Plan governing the transition was written during the spring of 1998. During the summer, the help desk for support to the services was established.

Budget

The president's 1998 budget for the Army totaled $60.4 billion. After normalization for supplemental appropriations, transfers, and inflation, the Army's total obligation authority for FY 1998 was $59.7 billion in constant FY98 dollars. This figure represents a loss in buying power of $3.8 billion from FY 1997 and a loss of $5.9 billion from actual FY 1996 obligation authority. Table 1 shows the FY98 Army budget by major spending categories.

TABLE 1—ARMY TOTAL OBLIGATION AUTHORITY, MAJOR SPENDING CATEGORIES: FY 1998
(BILLIONS OF DOLLARS)

Category	*Amount*
Military personnel	25.7
Operations and maintenance	20.7
Procurement	6.7
Research, development, test, and evaluation	4.5
Military construction	0.7
Army family housing	1.3
Environmental restoration	0.4
Base realignment and closure	0.4
Total	60.4

In a time of constrained resources, trade-offs must be made among competing readiness and modernization priorities. The FY98 Army Budget Estimate Submission reflected a program crafted to support the National Military Strategy and carefully balanced to build a more efficient Army by proposing such trade-offs to ensure readiness now and in the future. The budget provided for a force structure of ten active-component divisions, up to eight Army National Guard divisions, fifteen Army National Guard enhanced brigades, and a tailored reserve component combat support/combat service support structure. The budget estimate contained additional funding to support the Army National Guard division redesign. The budget maintained near-term readiness by fully funding operating tempo (OPTEMPO) for the active component and adequately funding it for the reserve component (RC).

On the materiel front, the budget estimate provided strategic mobility funding and completed the final phase of Army war reserve pre-positioning in Southwest Asia. It sustained critical research, development, and acquisition programs, such as the Comanche armed reconnaissance helicopter, the Army Tactical Missile System/Brilliant Anti-Armor precision-strike submunition, and upgrades to the Abrams tank. The budget also sustained funding for the Family of Medium Tactical Vehicles. The budget maintained OMA base support funding. In addition, the budget adequately funded quality-of-life and soldier support programs, such as educational opportunities, tuition assistance, and transition counseling.

To accommodate these Army priorities, the FY98 budget made some concessions. Army modernization efforts were focused only on early-deploying units. The budget constrained funding for combat training centers in favor of modernization investments to enhance home-station training. In the procurement area, the FY98 budget terminated the Black Hawk multiyear procurement for FY 1998–2001. The FY98 budget also ended production of the Hellfire II missile and slowed procurement of the Bradley fighting vehicle. The budget funded only critical depot maintenance. Finally, the budget decreased Army family housing construction in favor of efforts to involve the private sector in meeting Army housing needs.

In FY 1991, the DOD initiated the practice of annually submitting an omnibus reprogramming action to Congress. The purpose of the action is to incorporate all DOD reprogramming requirements into a single package for congressional committees to consider as a whole. The omnibus reprogramming consists of reprogramming proposals submitted by all services. The OSD submitted the FY98 annual omnibus reprogramming action on 24 August 1998. As required, the Army's submission balanced $239.7 million in FY98 requirements for designated programs with cuts in the same amount from other programs. An increase to the Operations and Maintenance, Army National Guard, account was made for the Operational Support

Airlift Agency, which provides short-notice air movement for high-priority passengers and cargo. An increase for readiness requirements was requested for OMA; and Aircraft Procurement, Army, was increased to pay for Kiowa helicopter modifications. Proposed funding sources included reductions in projected inflation rates as well as various programmatic reductions to the Procurement and Research, Development, Test, and Evaluation accounts. With the exception of the National Guard increases, Congress approved all the Army requirements. Because it approved only $191.5 million of the cuts proposed as funding sources, the Kiowa modification program and some readiness requirements, although approved, were not funded.

The Army expresses its future budgetary needs in a POM assembled in accordance with the Defense Planning Guidance issued by the secretary of defense. The Army POM for fiscal years 2000–2005 sought to position the U.S. Army for the future. POM 00–05 was built on the operational concepts identified in Joint Vision 2010 and Army Vision 2010. Both visions rely on the active engagement of land forces that employ information superiority to dominate opponents across the spectrum of conflict. The Army weighed near-term readiness requirements against long-term modernization requirements and attempted to meet both needs. Critical components of the Army program were inadequately funded. Under POM 00–05, OPTEMPO funds would move to facilities support because facilities support was significantly underfunded, compared with funding levels in previous years. Reductions to modernization accounts were unavoidable, given the realities of price increases in working capital funds (revolving funds within the DOD that finance organizations intended to operate like commercial businesses), increased OPTEMPO costs, and pay increases. POM 00–05 accepted considerable risk in both readiness and modernization to accommodate the demands of the Defense Planning Guidance. Greater resources, obtained through the realignment and closure of bases or the realignment of DOD funding, together with containment of defense agency rate increases (the accounting charges for goods and services exchanged between agencies) and realization of increased efficiencies, would be required to resolve Army readiness problems for the long term.

Army POM 00–05 supported an active-component end strength of 480,000, organized into the four-corps, ten-division structure directed by the Defense Planning Guidance and validated during the Quadrennial Defense Review (QDR), a DOD-wide joint review of the fundamental assumptions governing the conduct of the defense of the United States. The RC structure continued to shift during the POM years because the Army expected to exploit the full capabilities of the Army Reserve and the Army National Guard while planning to achieve its QDR objective of a 45,000-person reduction in RC force structure by the end of FY 2002. The initial cut of twenty thousand would be achieved by the end of FY 2000 and was apportioned as a reduction of seventeen thousand in the Army National Guard and three thousand in

the Army Reserve. The remaining twenty-five thousand RC reductions would be apportioned through the Total Army Analysis –07 process. When QDR reductions are completed, RC end strength will be at 530,000. The Army National Guard maintained fifteen enhanced brigades (seven heavy, seven light, and one armored cavalry regiment) as part of the total Army's warfighting capability. Army civilians made up approximately 18 percent of the total Army workforce, providing positional stability and institutional knowledge across the full spectrum of operations, including supply, maintenance, sustainment, readiness, training, acquisition, and research and development. POM 00–05 reduced civilian manpower by fourteen thousand from FY 2000 to FY 2005. The FY00–05 civilian manpower program reflected reshaping efficiencies, competition and privatization initiatives, and other efficiencies. The FY05 projected civilian manpower total of 210,000 was eight thousand closer than prior POM figures to the Defense Planning Guidance goal of two hundred thousand.

Readiness continued to be the Army's number-one priority. It required that soldiers and units be well trained. The Army POM 00–05 programmed resources against this requirement in accordance with the first-to-fight principle and force packaging. Total Army operating tempo and military personnel accounts increased by $3.284 billion and $783 million, respectively, to meet critical requirements. Army National Guard operating and support funding increased by $2.494 billion in the POM, reflecting the "One Team, One Fight, One Future" resourcing strategy. POM 00–05 forecast procurement of future systems envisioned by the IT-intensive Army XXI initiative, fully equipping a division with the new battlefield command-and-control systems in FY 2000 and a corps in FY 2004. For the longer-range future, the Army After Next initiative sets a planning horizon beyond that of Army XXI to the requirements of land forces through the year 2025. Army POM 00–05 proposed funding of a series of war games, workshops, and seminars to identify the technologies necessary to provide the Army After Next force with the physical agility to complement the mental agility of Army XXI. Whereas the Army reduced funds for modernization, it sought to protect its most important modernization programs, including digitization and leap-ahead science and technology. It did so at the cost of taking much greater risk in recapitalization programs aimed at refurbishing the current force's equipment and in the maintenance of combat overmatch against prospective battlefield threats.

Infrastructure was the last priority in the Defense Planning Guidance. As a result, in POM 00–05 accounts supporting Army infrastructure were reduced first, in order to pay readiness bills. The Army decreased base operations support and real property maintenance funding by $1.493 billion and $1.051 billion, respectively. Although in accordance with DOD priorities, these programmed reductions were likely to cause increased movement of OPTEMPO funds and potential reprogramming from modernization accounts in the year of execution.

3

Personnel

The Army originally planned to reduce FY98 end strength to 485,000. In its FY98 budget, however, Congress required the Army to maintain its FY98 end strength at 495,000, plus or minus 7,425 (1.5 percent). The Army fell short of this target even as it worked to increase acquisition and retention of personnel. During FY 1998, the strength of the active Army decreased by 1.5 percent, from 491,707 at the beginning of the year to 483,880 at year's end. The strength of the Army National Guard (ARNG) fell slightly more than 2 percent, from 370,044 at the end of FY 1997 to 362,444 at the end of FY 1998. For both years, this was a fraction of a percentage point above authorized strength. U.S. Army Reserve (USAR) end strength for FY 1998 was 204,968 Selected Reserve personnel (down from 212,850 at the end of FY 1997), with an additional 459,636 personnel serving in the Individual Ready Reserve.

Members of minority groups and women continued to be major contributors to the strength of the Army. Minority groups represented 40.1 percent of active Army end strength; women represented 14.8 percent. Minority groups represented 26.0 percent of ARNG end strength; women represented 9.9 percent of the total. Minorities made up 40.6 percent of USAR FY98 end strength; women represented 24.2 percent. These figures generally represented slight increases over the figures in FY 1997.

Enlisted Personnel

Through January 1998, the Army carried higher strengths than originally programmed because of declining first-term soldier attrition and higher-than-expected enlisted accessions. As a result, February 1998 estimates of FY98 active Army end strength were more than 488,000, above the end-strength floor of 487,575, with average strength figures exceeding those budgeted in the manpower program by up to $49 million. In response, the enlisted accession mission was lowered from 77,500 at the start of the fiscal year to a final mission of 72,550. An unexpected and rapid upturn in first-term losses, particularly to attrition in the first six months of service, was identified in April 1998, and this trend continued. The U.S. Army Recruiting Center was unable to respond to the sudden demand for enlisted accessions to offset the unanticipated losses, and fell 797 accessions short of its final FY98 mission. In an effort to achieve the congressional end-strength floor, the Army added

TABLE 2—ARMY ENLISTED RETENTION: FY 1998

Enlistment Period	*Objective*	*Accomplished*	*Percentage*
Initial term	20,542	21,672	105.5
Mid-career	22,912	23,416	102.2
Career	18,671	17,995	96.4
Total	62,125	63,083	101.5

1,487 of two thousand planned FY99 recruits to its rolls in the final two days of FY 1998. The number proved to be insufficient, but it was the most that the Army was able to recruit successfully.

The ARNG enlisted 57,533 soldiers in FY 1998 (31,151 prior-service personnel and 25,487 non–prior service personnel [NPS]), slightly exceeding its enlistment objective of 56,638. The USAR enlisted 44,211 soldiers (26,393 with prior service and 17,818 NPS); this total fell short of the enlistment objective of 47,940.

Despite its failure to achieve desired end-strength levels, the total Army exceeded its FY98 overall retention objectives. Accomplishments by category are given in Table 2.

The reserve component (RC) also achieved its affiliation goal (the sum of direct enlistment of civilians in the RC plus transitions from the active Army) in FY 1998. Through concerted efforts to reduce attrition and to retain soldiers with FY98 separation dates, the RC exceeded their goal of 11,100 transitions from the active Army with 11,600 reserve affiliation contracts.

The Army took several steps to improve retention. The indefinite-reenlistment program for career soldiers (staff sergeants or higher with ten or more years of service) was implemented on 1 October 1998, enabling these soldiers to serve indefinitely up to the career retention point for their rank. Initial response was overwhelmingly positive. The Army changed the reenlistment eligibility window at the start of FY 1998 to permit soldiers to reenlist as early as twelve months before their separation date versus eight months prior under the old policy. The Army expanded Selective Reenlistment Bonus (SRB) payments during FY 1998 by $13.5 million to offset potential losses of critical and technical skills that were becoming harder to retain because of a strong civilian economy and job opportunities in the civilian sector. The SRB program, managed by the Enlisted Personnel Management Directorate, U.S. Total Army Personnel Command (PERSCOM), targeted selected Military Occupational Specialties, language skills, Special Qualification Identifiers, and Additional Skill Identifiers, totaling approximately one hundred subjects in FY 1998. The Army retention regulation, AR 601-280, *Army Retention Program*, was completely revised

from the 29 September 1995 version. The new edition of AR 601-280 would give broader roles in retention management to commanders and command sergeants major, as well as broader waiver authority. In addition, enhanced counseling initiatives were implemented. The regulation was still in legal channels at the end of FY 1998, but release and printing were expected during the late second quarter or early third quarter of FY 1999.

The Army made additional personnel policy changes aimed at improving retention during FY 1998. The requirement for soldiers to reenlist no later than ninety days prior to the end of their term of service was lifted for soldiers whose terms would end in FY 1998. Previously, Department of the Army policy stated that soldiers in the rank of private first class (PFC) were ineligible to reenlist, but several changes to this policy were established. PFCs on initial enlistments of three or fewer years (if otherwise qualified), reenlisting before attaining twenty-six months of total active federal service, became eligible to reenlist for a period not to exceed six years, twenty-nine days. PFCs on initial enlistments of four years or fewer with at least twenty-one months of continuous active federal service (who were eligible for the SRB) became eligible to reenlist for a period not to exceed five years. Total active service could not exceed seven years, twenty-nine days. PFCs who incurred a service-remaining requirement imposed by the Department of the Army (if otherwise qualified) became eligible for extension or reenlistment. Extension would be only for the time necessary to fulfill the service-remaining requirement. Prior-service soldiers could exceed seven years, twenty-nine days. These soldiers would be permitted to reenlist for the time necessary to fulfill the service-remaining requirement, not to exceed the time-in-service Retention Control Point for the next higher rank.

Authority to approve waivers of bars to reenlistment for one-time occurrence of Absence Without Leave (AWOL) or lost time for soldiers with ten or fewer years of active federal service was implemented during FY 1998. In the case of soldiers with up to fifteen days AWOL or lost time, commanders of battalion-sized units with at least the rank of lieutenant colonel or special court-martial convening authority (as appropriate to the case) gained waiver-approval authority. In cases involving sixteen to thirty days' AWOL or lost time, the first general officer or the general courts-martial convening authority, whichever was the more direct line to the soldier, held waiver-approval authority. Waivers for AWOL or lost time exceeding thirty days would be submitted to the Enlisted Personnel Management Directorate, PERSCOM.

In addition to its efforts to improve accession and retention, the Army also addressed the problem of attrition. First-term attrition refers to those initial-term soldiers who depart the Army before serving thirty-six months. Army personnel managers track first-term attrition by cohort, or year group, over those three years in two grand divisions: from zero to six months, which

represents predominantly soldiers in the training base; and from seven to thirty-six months, which represents soldiers assigned to field units. The Army cohort attrition rate has averaged between 35 and 37 percent over the last ten years; that is, of one hundred soldiers who enter the Army in a given year, thirty-five to thirty-seven will separate before completing three years of service. Projected first-term attrition is 37.81 percent after three years for the FY98 cohort. This is a significant increase from the FY97 cohort, projected to be 35.64 percent after three years. The increase can be attributed to a substantial rise in attrition in the training base and some increase in the units. There was a rise in attrition in December 1996. The chief of staff, Army (CSA), outlined the problem to commanders in the field and asked them to review their programs. Concurrently, the Office of the Deputy Chief of Staff for Personnel (ODCSPER) recommended resorting to the rehabilitative transfer program as an alternative to separation. In addition, the Army withdrew soldiers' option to request discharge before the end of their term of service after imposition of a bar to reenlistment.

In December 1997, total attrition decreased to a low for the fiscal year of 34 percent. The rate for soldiers with six months' service or less then rose to a peak of 18.85 percent in July 1998. The Army attributed some of the increase to changes in the training base that increased standards and rigor. Similarly, attrition was on the rise in the seven- to thirty-six-month cohort in field units, increasing from an annualized rate of 6.5 percent in December 1997 to a rate of 7.4 percent in September 1998. The acceptable band of unit attrition is between 5 and 7 percent. Tables 3–5 show quarterly attrition figures for FY 1998.

TABLE 3—RECRUITING COHORT ATTRITION, 0–6 MONTHS OF SERVICE: FY 1996–FY 1998
(PERCENT)

Cohort	*December*	*March*	*June*	*September*
FY 1998	14.06	16.39	[a]17.81	18.48
FY 1997	13.52	14.17	14.17	14.17
FY 1996	15.12	15.12	15.12	15.12

[a] The FY98 cohort attrition rate for 0–6 months peaked in July 1998 at 18.85 percent.

TABLE 4—RECRUITING COHORT ATTRITION, 7–36 MONTHS OF SERVICE: FY 1996–FY 1998
(PERCENT)

COHORT	*DECEMBER*	*MARCH*	*JUNE*	*SEPTEMBER*
FY 1998	N/A[a]	N/A	N/A	N/A
FY 1997	20.90	20.98	21.54	21.50
FY 1996	19.64	19.49	20.02	20.41

[a] Not available.

Personnel stability has an important bearing on both retention and attrition. In late 1997, the CSA became exceedingly concerned about the operating and personnel tempo of the Army. The personnel tempo was putting a tremendous demand on all soldiers, especially middle-grade officers and noncommissioned officers. Of particular concern was the negative impact of back-to-back deployments. Although FY98 retention was satisfactory, the overriding long-term concern was burn-out for those soldiers who were frequently deployed and who chose separation as a measure to resolve the dilemma. The CSA directed that efforts be expended to develop personnel policies that took care of soldiers and their families while preserving force readiness.

In September 1997, the commanding general, PERSCOM, initiated the stabilization study to determine ways to increase soldiers' average time on station (TOS) or their stay at any given duty location. For the majority of FY 1998, the stabilization study was a major focus for PERSCOM analysts, who developed a number of computer algorithms to improve the quality of enlisted soldiers historical data to create a more effective analysis of TOS. Major factors included the percentage of the Army stationed overseas, tour length, attrition, proportion of females in units, and proportion of "fenced" units (units unavailable for reassigning personnel). The PERSCOM Analysis Branch developed computer models of TOS, including soldier- and force-based statistical models, as well as stochastic and deterministic simulation

TABLE 5—ANNUALIZED RECRUITING COHORT ATTRITION: FY 1998
(PERCENT)

COHORT	*DECEMBER*	*MARCH*	*JUNE*	*SEPTEMBER*
0–6 months	14.2	14.6	15.1	16.2
7–36 months	6.5	6.7	7.1	7.4

flow models used to simulate the movement of the soldier population through the personnel system.

Insights from the study were used to suggest changes to Army personnel policy. The Deployment Stabilization Policy was approved and implemented in February 1998. It mandated that, wherever possible, soldiers would enjoy a month of stabilization at their home station for every month they are deployed as part of specified operations. During this period of stabilization, soldiers could not be involuntarily placed on temporary duty or temporary change of station away from their home stations to participate in specified operations other than war. The purpose of the policy was to ensure a level of fairness in the treatment of soldiers placed on temporary duty and temporary change of station for lengthy periods of time. The policy also enabled soldiers to reacquaint themselves with their families and readjust to their working environments. Management of the program was decentralized to field commanders.

Officer Personnel

Officer strength at the end of FY 1998 was 78,425. FY98 officer strength was thus slightly lower than the FY97 strength of 301 general officers, 67,254 other commissioned officers, and 11,750 warrant officers (Table 6).

Table 7 summarizes FY98 officer accessions by source of commission and competitive category from the end of FY 1998. Categories are the general-duty Army Competitive Category, warrant officer, chaplain, judge advocate general, and Army Medical Department.

TABLE 6—OFFICER STRENGTH BY GRADE: FY 1998

GRADE	*NUMBER*	*GRADE*	*NUMBER*	*GRADE*	*NUMBER*
General	12	Colonel	3,604	CW5	342
Lieutenant General	42	Lieutenant Colonel	9,047	CW4	1,323
Major General	99	Major	13,741	CW3	3,038
Brigadier General	152	Captain	22,286	CW2	5,056
		1st Lieutenant	9,439	WO1	1,898
		2d Lieutenant	8,346		
Total	*305*		*66,463*		*11,657*

TABLE 7—OFFICER ACCESSIONS BY SOURCE OF COMMISSION: FY 1998

SOC/CAT	*ACC*	*WO*	*CHAP*	*JAG*	*AMEDD*	*TOTAL*
USMA	843	0	0	1	29	873
ROTC	2,689	0	0	26	444	3,159
OCS	344	0	0	2	6	352
USAREC	20	1	101	84	700	906
WOs	0	1,049	0	0	0	1,049
Total	3,896	1,050	101	113	1,179	6,339

Note: ACC = general-duty Army Competitive Category, AMEDD = Army Medical Department, CHAP = chaplain, JAG = judge advocate general, OCS = Officer Candidate School, ROTC = Reserve Officers' Training Corps, SOC/CAT = source of commission/competitive category, USAREC = U.S. Army Recruiting Command, USMA = United States Military Academy, WO = warrant officer.

Table 8 summarizes FY98 officer promotions, by grade, by the Army Competitive Category, the general population of nonspecialist commissioned officers. The table shows the number of officers selected for promotion by time-in-grade zone (above, primary, and below) and total selections; the number of officers considered to be in the promotion zone; the promotion rate specified by the Defense Officer Personnel Management Act (DOPMA rate), which equals total selected divided by the number considered to be in the promotion zone; and the DOPMA goal. Selection rates in FY 1998 were generally closer to DOPMA goals than they were in FY 1997. Exceptions were the rates for majors and lieutenant colonels, which were farther from the goals.

TABLE 8—OFFICER PROMOTIONS: FY 1998

	SELECTED FOR PROMOTION					*DOPMA*	
GRADE	*AZ*	*PZ*	*BZ*	*TOTAL*	*PROZONE*	*RATE (%)*	*GOAL (%)*
Colonel	29	341	30	400	806	49.6	50
Lieutenant Colonel	53	945	52	1,050	1,393	75.4	70
Major	32	1,522	126	1,680	1,975	85.1	80
Captain	6	3,430	0	3,436	3,492	98.4	95

Note: AZ = above time-in-grade zone, BZ = below time-in-grade zone, DOPMA = Defense Officer Personnel Management Act, ProZone = promotion zone, PZ = primary time-in-grade zone.

TABLE 9—AVERAGE YEARS OF COMMISSIONED SERVICE AT PROMOTION: FY 1998

GRADE	*YOCS*	*DOPMA GOAL*	*DOPMA RANGE*
Colonel	22.2	22.0	+/-1
Lieutenant Colonel	16.4	16.0	+/-1
Major	11.0	10.0	+/-1
Captain	4.0	3.5	+1

Note: DOPMA = Defense Officer Personnel Management Act, YOCS = years of commissioned service.

Table 9 shows average years of commissioned service at which Army Competitive Category officers were promoted. All the FY98 averages for years of commissioned service thus fell within the range specified by the DOPMA. In general, the averages came closer to the exact DOPMA goal did than those of the previous fiscal year. The exception was the average years of commissioned service at promotion for captains, which stayed constant.

A variety of changes in officer personnel management and in the information systems that support them were implemented in FY 1998. The training branch of the Training and Analysis Division within the Office of the Deputy Chief of Staff for Operations, PERSCOM developed new officer-training requirements. The adoption of the Officer Personnel Management System XXI (OPMS XXI) required revision of Department of the Army (DA) Pamphlet 600-3, *Commissioned Officer Development and Career Management* (8 June 1995). The new edition of that pamphlet, scheduled for publication on 1 October 1998, generates significant doctrinal changes and new career training paths for some officers. The training branch developed training requirements for new functional-area courses necessitated by the OPMS XXI. These requirements were accepted at the Structure and Manning Decision Review for FY 2001 through FY 2003, which ensured that resources would be allocated to the OPMS XXI courses for those fiscal years. The new Officer Evaluation Reporting System (OERS) was implemented on 1 October 1997 for the active Army and Title 10 National Guard officers, on 1 June 1998 for National Guard and Title 32 officers, and on 1 October 1998 for all Army Reserve officers. Before the implementation, the Management Support Division, the Adjutant General Directorate, PERSCOM, distributed OERS information and education documents to the field. This distribution consisted of 200,000 copies of AR 623-l05, *Officer Evaluation Reporting System* (1 October 1997), and 350,000 copies of a supplementary instructional pamphlet for DA

Pamphlet 623-105, *The Officer Evaluation Reporting System "In-Brief"* (1 October 1997). These items also were made available online.

The new OERS included four basic elements: (1) a reinvigorated support form process; (2) two initiatives aimed at junior officer development—the Junior Officer Developmental Support Form (JODSF) and the restricting of access to reports written by the superiors of second lieutenants, intended to avoid the reports' having a prejudicial effect on the second lieutenant's subsequent career (otherwise known as "masking" the report); (3) improvements in the administrative and rater portions of the OERS; and (4) restoration of senior rater accountability. New policies included requirements for senior raters to pass their updated support forms two levels down to the rated personnel as a model, and for raters to conduct initial performance counseling in October, as well as for raters of lieutenants and warrant officers-1 to initiate JODSFs in October. On 1 December 1997, an OERS update was mailed to all brigade and battalion commanders. The update included worksheets and an OERS Management Plan intended to help senior raters maintain credible profiles—that is, profiles not showing a history of disproportionately high ratings. The biannual Senior Rater Updates were mailed to all senior raters in January and June 1998.

The Officer Record Brief (ORB) provided a variety of users a concise, accurate, and timely view of an officer's career, a one-page snapshot of a commissioned or warrant officer's personnel record. The brief contains both current and historical information pertaining to an individual's career. Almost every decision made about an officer's career is influenced by the data shown on the ORB. During FY 1998, efforts began to identify ORB systems that might no longer be needed or might not be used. Elimination of the ORB Annual Audit System (DAPCX-215) was completed by 31 December 1997. Eliminating this system saved the printing of a quarter-million ORBs. Additionally, the production of separation ORBs was discontinued, thus saving additional production costs.

The Total Officer Personnel Transaction Update System (TOPTUS) provides the capability to post updated commissioned and warrant officer personnel transactions to the Total Army Personnel Database-Active Officer (TAPDB-AO). The TOPTUS is used only to process batch transactions and does not do the online updates that are handled through the Total Officer Personnel Management Information System (TOPMIS; described below). Input transactions are collected and processed twice daily, Monday through Friday. The system's 566 interrelated programs perform edit, audit, update, and feedback functions and then post data directly to the TAPDB-AO. As of the end of FY 1998, the system has the capability to process both Standard Installation/Division Personnel System (SIDPERS)-2 and SIDPERS-3 transactions. After full implementation of the SIDPERS-3, the SIDPERS-2 programs can be deleted with very little effort.

The total redesign of the Officer Master File for compatibility with the TOPTUS began in FY 1993 and was completed and went into production in July 1994. During FY 1998, the Military Systems Division, Personnel Information Systems Directorate, PERSCOM, undertook several new tasks that had a direct impact on the TOPTUS and the Officer Master File database. The division supplied numerous officer data sets for the development and testing of the Force Manning System as well as for the new Officer Evaluation Report System. In addition, the division generated more than four hundred pages of TOPTUS interface information for the Defense Military Human Resources System. This information provided the ODCSPER with every data element on every file that is used as TOPTUS input or output. The PERSCOM also worked with Walter Reed Army Medical Center to automate the processing of HIV (human immunodeficiency virus) data. The main focus of work on the TOPTUS during FY 1998 was Y2K certification for the system. The entire system was analyzed, program changes were made and tested where necessary, and a Y2K notebook was prepared. The critical portion of the TOPTUS was Y2K certified in early June 1998, well ahead of schedule.

The TOPMIS provides the capability to update commissioned and warrant officer personnel data in the TAPDB-AO. The TOPMIS is used only to do online updates and does not process batch transactions, which are handled through the TOPTUS. Personnel data can be entered twenty-four hours daily for direct updates to the TAPDB-AO. The TOPMIS's two hundred programs edit, audit, update, and provide feedback on personnel data. During FY 1998, the Military Systems Division, Personnel Information Systems Directorate, PERSCOM, mainly focused on getting the TOPMIS Y2K certified. As in the case of the TOPTUS, the TOPMIS was approved as Y2K certified in early June 1998, well ahead of schedule.

During FY 1998, command opportunities for lieutenant colonels and colonels in the combat service support branches increased as Army combat service support units and activities were activated or reorganized. The Defense Finance and Accounting Service established three new commands during FY 1998—at San Antonio, Texas; Lawton, Oklahoma; and Orlando, Florida. The San Antonio operating location was activated in the summer of 1998, with the Orlando and Lawton locations to be activated during FY 1999. Command opportunities for Ordnance Corps officers increased in FY 1998, as commands previously open to officers from both the Ordnance Corps and Chemical Corps became specialized. Blue Grass Army Depot (AD), Richmond, Kentucky; Crane Army Ammunition Activity, Crane, Indiana; McAlester Army Ammunition Plant (AAP), McAlester, Oklahoma; and Sierra AD, Herlong, California, became open only to ordnance branch colonels. The 91st Ordnance Battalion and the 6th Ordnance Battalion became open only to ordnance lieutenant colonels. Command of Hawthorne

AAP, Hawthorne, Nebraska; Iowa AAP, Middletown, Iowa; Lake City AAP, Independence, Missouri; Lone Star AAP, Texarkana, Texas; Milan AAP, Milan, Tennessee; Seneca AD, Romulus, New York; and Tooele AD, Tooele, Utah, became open only to ordnance lieutenant colonels. Pine Bluff Arsenal, Pine Bluff, Arkansas, became open only to chemical officers. During FY 1998, quartermaster officers were given expanded opportunities to compete for multifunctional commands as both lieutenant colonels and colonels. The Combat Equipment Battalion-Northeast Asia is a new battalion command, located in Taegu, Korea, scheduled to open as a two-year command tour in June 2000. In addition, two new brigade command opportunities are expected to open in the summer of 2000: (1) Defense Reutilization and Marketing-International, a subordinate command of the Defense Logistics Agency located in Wiesbaden, Germany, and (2) the Combat Equipment Group-Southwest Asia, a subordinate command of the Army Material Command located in Kuwait.

The OPMS XXI established several new functional areas in FY 1998, one of them being Strategic Plans and Policy. In February 1998, a Personnel Proponent Office was established to fulfill the responsibilities for Functional Area (FA) 50, Strategy and Force Management. FA 50 encompasses two areas of concentration: 50A, Force Management; and 50B, Strategic Plans and Policy. As the work of the OPMS XXI Implementation Team progressed, it became obvious that the needs of the Army would be better served by establishing a separate functional area for each area of concentration. On 7 August 1998, the CSA approved the establishment of FA 59, Strategic Plans and Policy, with the Deputy Chief of Staff for Operations and Plans (DCSOPS) being the proponent and the Director of Strategy, Plans, and Policy in the Office of the DCSOPS being his executive agent for this functional area. For the rest of the fiscal year, the Office of the DCSOPS FA 59 Proponency Office concentrated on the recoding of Army Authorization Documents Systems documents to reflect billets requiring the assignment of FA 59 officers. The recoding was not complete at the end of the fiscal year.

Civilian Personnel

The number of civilians employed by the Army has been steadily declining as the Army has drawn down its force. Overall civilian strength, including foreign-national employees and Army National Guard technicians, declined by 10,700 in FY 1998, from 243,200 to 232,500. The Army has reduced its civilian strength by 42 percent (from 402,900) since the drawdown began in FY 1989. The average age and tenure of Army civilians have been increasing since the start of the drawdown. Between FY 1989 and FY 1998, their average age went from 43.0 to 46.2 and their average years of service rose from 13.5 to 16.8. There were 15,150 retirement-eligible

Army civilians—defined as those qualifying for optional retirement (not including discontinued service or Federal Employees Retirement System reduced annuity)—at the end of fiscal year 1998, making up 7.3 percent of the workforce. That was an increase in both absolute numbers and percentage of workforce from fiscal year 1997 (14,369 and 6.7 percent, respectively). Minorities represented 29.4 percent of the total workforce; women represented 46.8 percent of the whole.

On 15 September 1998, the Office of the Secretary of Defense issued new guidance for civilian management for fiscal years 1999 through 2003. The guidance changed the allowable proportion of personnel in senior grades, GS-14 and above. Such personnel must account for no more than 7.4 percent of the Army's total full-time permanent professional, administrative, and technical workforce. This guidance was less stringent than the method used to assign senior grades at the onset of the reduction program in 1993.

The Civilian Human Resources Strategic Plan for fiscal years 1999 through 2005, published in September 1998, communicated corporate vision, areas of emphasis, and performance goals to guide the Army civilian human resources community in its seven-year effort to manage the civilian workforce and to improve the delivery of its services. The plan implemented a three-tier process:

1. The strategic plan would drive annual organizational operational plans, including measurable objectives and actions to achieve the planning goals.
2. Planning goals then would drive specific assignments in individual annual performance plans.
3. The process would then conclude with evaluation of organizational and individual performance relative to the plans, thus renewing the planning cycle.

Civilian Personnel Management System (CPMS) XXI is a process to determine the future Army civilian workforce needed to support Army XXI and AAN initiatives. The Army Secretariat, the Office of the DCSOPS, and the ODCSPER led the CPMS XXI initiative. A formal charter for the CPMS XXI Process Action Team (PAT) and Executive Steering Committees was established in FY 1998. The first full CPMS XXI PAT meeting began the Army-wide process of analyzing the current civilian force baseline and defining future civilian workforce needs in a systematic manner. A second PAT meeting, addressing how to integrate career program planning results with major command (MACOM) civilian forecasts for Table of Distribution and Allowances into Total Army Analysis (TAA), also took place in FY 1998. A PAT status briefing to the CSA through his Leadership Advisory Group followed these meetings. In addition, the PAT participated in the first exercise to feed Table of Distribution and Allowances requirements into TAA 2007. The analyses and evaluations arising from these activities resulted in

development and refinement of CPMS XXI concepts and methodologies by the end of the fiscal year.

The Civilian Personnel Operations Center Management Agency (CPOCMA) was established in July 1997 to provide management of the seven regional civilian personnel operations centers in the continental United States. The agency began operations in March 1998, occupying two renovated buildings at Aberdeen Proving Ground. In March 1998, the Army Center for Civilian Human Resource Management in Lancaster, Pennsylvania, relocated to Aberdeen Proving Ground and became the Training Management Division under the CPOCMA. The division's new facility, part of the CPOCMA complex, included four state-of-the-art classrooms in which division personnel conducted functional, leadership, and automation training for the Army's civilian personnel career employees. During the fiscal year, ninety-two classes were taught; more than twenty-one hundred students attended at locations in the continental United States as well as in Alaska, Europe, and the Republic of Korea. The Training Management Division established a Web site, accessed through the Civilian Personnel Online Web site, that includes a course schedule, a description of courses, and an online course application form.

By the end of FY 1998, nine of the ten regional Army Civilian Personnel Operations Centers (CPOCs) were fully operational, and approximately 96 percent of employees were receiving regionalized civilian personnel services. The West CPOC at Fort Huachuca, Arizona, began operations in March 1998, serving employees in twelve states. The South Central CPOC, Huntsville, Alabama, and the North Central CPOC, Rock Island, Illinois, reached full operational capability in September 1998. The South Central CPOC serves nine MACOMs, with 35,527 employees in seven states; the North Central CPOC serves three MACOMs, with 22,700 employees in seven states. The CPOC Productivity Reporting System (CivPro) was fielded to the CPOCs and the MACOMs in FY 1998. The first phase of the CivPro implementation—providing counts of completed actions by nature-of-action code—was online in December 1997. To allow for historical analyses, the data for phase I dated from January 1993. The second phase, fielded in August 1998, contained data on the timeliness of completed recruit and fill actions, as well as counts of the number of recruit and fill actions entering and leaving the CPOCs. Data for phase II came from the Army PERSACTION automated personnel system, using records from October 1997 to the present. Programming for a third phase had begun at the end of FY 1998. Phase III will extend the CivPro beyond recruit and fill actions, enabling it to track all actions in PERSACTION, and will make the CivPro accessible through the World Wide Web.

Roles and responsibilities for human resource development in the regional CPOCs were established in FY 1998. A task list was approved and

distributed, business process maps were drawn to show the flow of core human resource development processes, and standard operating procedures were put into final form. Two classes (622 participants throughout the Department of Defense [DOD]) were selected for the Defense Leadership and Management Program, which was developed in 1997 to prepare and certify a cadre of senior civilians DOD-wide. Forty-five Army employees (GS-14–15) entered the 1997 class in December 1997. The 1998 class, selected in July 1998, included 112 Army employees (GS-13–15). Women were 43 percent of the Army participants; minority representation was 27 percent.

The Army civilian personnel community continued to support the modernization of the Defense Civilian Personnel Data System (DCPDS). Army representatives participated in requirements development, system testing, and infrastructure procurement and installation. The modernized system will support civilian personnel operations throughout the DOD. It will support appropriated fund, nonappropriated fund, and local–national civilian personnel functions. Managers, personnel specialists, resource management officials, and others will use the DCPDS to achieve process improvements that support directed manpower reductions in civilian personnel operations. The modernization of the DCPDS will automate the initiation, coordination, and processing of personnel transactions. The system will direct personnel actions applied to payrolls, provide automated tracking and management of personnel actions, and supply managers with information on employees. System qualification testing of the modernized DCPDS began in July 1998. Completion was planned for September 1998, but the Office of the Secretary of Defense extended the test period to permit more thorough testing before deployment in the Army's Pacific region and in other operational testing and evaluation sites. Full deployment of the modernized DCPDS is expected to occur in FY 2000.

Army science and technology laboratories continued to test civilian personnel management systems and programs. Demonstration projects were implemented in FY 1998 at the Medical Research and Materiel Command, the Army Research Laboratory, and the Engineer Research and Development Center, thereby bringing the current number of projects to five (covering a total of 7,400 civilians in a wide variety of occupations). Work progressed on the DOD Acquisition Workforce Personnel Demonstration. The project plan was published in the *Federal Register* in March 1998, and public hearings followed. Implementation is projected to begin in February 1999. This demonstration project will cover a total of 14,817 civilian employees, including 1,758 Army civilians. Initiatives began to develop an automated activity-based costing system that would determine costs of operational-level civilian human resources products and services. Activity-based costing would be used to improve efficiency and customer

service, and to support corporate business and policy decisions concerning civilian human resources and outsourcing competitions.

Headquarters, DA (HQDA) designed a process for centralizing the recruitment of interns through the Army Civilian Training, Education, and Development System (ACTEDS) during FY 1998. The North Central CPOC was designated to become the total service provider for the recruitment of all ACTEDS interns. HQDA civilian personnel staff continued to make improvements to the online intern position description library this year. A new Web-based entry system was developed to enable the CPOCs to enter position descriptions in the database. This system also enabled Army civilian personnel staff to edit documents directly from the database. Developers installed an online software demonstration of how the system functions to instruct new users on the features and policies of the library.

Special Topics

The enhancement of opportunity for women in the Army continued. Females accounted for 14.9 percent of the total Army force in FY 1998, up slightly from 14.7 percent in FY 1997. Women were 16.3 percent of the commissioned officers, 6.4 percent of warrant officers, and 13.7 percent of enlisted personnel. Among the enlisted females, whites were the majority group (46.0 percent), and blacks were the second largest group (40.5 percent). Integration of women into the expanded range of duties opened by the Secretary of Defense's new assignment rule and amended definition of direct ground combat in FY 1994 continued. In response to a recommendation by the Defense Advisory Committee on Women in the Services, the Army began to study the feasibility of opening to women positions in special operations aviation and multiple launch rocket systems units. The Army also defended its practice of gender-integrated basic training, implemented on a large scale in FY 1994, in the face of criticism from Congress and public interest groups. Gender resegregation was presented as detrimental to readiness and contrary to established principles of gender equity, and as a violation of the axiom that units must train as they expect to fight.

In an effort to provide a better climate for women and minorities, the Army proceeded with a variety of equal opportunity and human relations initiatives in FY 1998. Between January and September 1998, the Army sent 288 soldiers of all ranks through the Defense Equal Opportunity Management Institute. All currently assigned division, corps, and installation commanders have attended the institute's general officer/senior executive service course. The Army has increased the number of equal opportunity advisors (EOAs) assigned to units to ensure that all

units or brigade size and above will have trained EOAs available to assist soldiers and commanders. The Army has centralized the selection process for EOAs to ensure the selection of top-quality soldiers for these positions. By this means the Army has sought to remove the perception that serving as an EOA was not career-enhancing. Promotion statistics indicated that high-quality soldiers were filling EOA positions; the percentage of EOAs promoted to master sergeant (E-8) on the most recent promotion board exceeded the Army average.

The Army established the Human Relations Action Plan in response to the findings of the Inspector General Special Inspection of Initial Entry Training and the Senior Review Panel on Sexual Harassment in the wake of allegations of sexual harassment at Aberdeen Proving Ground. This action plan directs Army leaders to implement those changes necessary to improve the human relations environment in the Army. The secretary of the Army promised Congress a follow-up study after the plan was implemented.

The most recent quarterly in-progress review for the Human Relations Action Plan took place on 16 September 1998. Both the senior civilian and military leaders were pleased with the progress the Army has made in implementing this plan. The in-progress review process will be discontinued in FY 1999. Instead of these reviews, the ODCSPER will provide to the CSA and the secretary of the Army quarterly written reports through the assistant secretary of the Army for manpower and reserve affairs. The Army has taken significant actions already to implement the recommendations made by the reports of the inspector general and of the secretary of the Army's Senior Review Panel on Sexual Harassment, beginning with the methodology used by the review panel. Panelists briefed commanders before leaving the locations they visited, and these exit briefings started the process of human relations change in the Army.

The Army has undertaken a variety of other initiatives to improve human relations within the service. The CSA published a pamphlet, "Leadership and Change in a Values-Based Army," that reinforced core values and leader responsibilities. Commanders at all levels received training on ways to establish a healthy climate for human relations; they were also given a mandate to conduct a climate assessment within ninety days of assuming command and annually thereafter. Implementation of the Human Relations Action Plan provided new tools to help leaders monitor the climate within their units and it offered standardized, improved, and expanded training in sexual-harassment prevention and equal opportunity, which was supplied through new training support packages developed by the Soldier Support Institute. The plan also called for a chain-teaching process throughout the Army to educate soldiers and leaders on the Army's policy and standards of behavior regarding sexual harassment and misconduct.

Institutionally, implementation of the Human Relations Action Plan created a new three-star general officer position for an additional deputy commander at the Training and Doctrine Command to focus on the teaching of Army values and traditions. This teaching began by setting or modifying standards of training in individual entry training. A variety of other training-related measures were put in place as well. Executive officers were assigned to advanced individual training companies to decrease the commanders' administrative workload. In addition, chaplains were assigned to training battalions to give soldiers another means to address their problems. The Army extended basic combat training from eight weeks to nine weeks on 1 October 1998, so that new soldiers could be immersed in the Army's seven core values: loyalty, duty, respect, selfless service, honor, integrity, and personal courage. The additional fifty-four classroom hours of instruction in the added week stress the Army's values and heritage and aim to promote teamwork, discipline, and knowledge of Army heritage.

One-station unit training was lengthened by fifty-four hours. Soldiers going through the longer training are still required to meet standards in traditional training tasks, such as weapons qualification, the Army physical fitness test, hand-grenade throwing, and road marching. More thorough screening and selection of prospective drill sergeants were implemented to ensure that only those soldiers best suited to lead and mentor new recruits would be assigned to drill sergeant duty. A pilot psychological screening program for drill sergeant candidates was implemented. In addition, the Army approved three drill sergeant incentives: assignment preferences for soldiers completing drill sergeant duty; an increased emphasis on drill sergeant assignment as a positive criterion for consideration by promotion boards; and a $275-per-month increase in drill officers' special-duty assignment pay for the entire year, rather than only during basic training cycles.

The Consideration of Others Program, implemented throughout the Army in FY 1998, is designed to heighten soldier and leader awareness of and skills in areas relating to the human dimensions of combat readiness. The Human Resources Directorate, ODCSPER, published a Consideration of Others Handbook for use throughout the Army. The program is based on the premise that subjects in this area are best addressed by small-group instruction emphasizing the responsibility of the soldier as a member of a military team. The specific content of Consideration of Others lessons is based on a commander's assessment of his or her command's needs. EOAs are key participants in this program. Existing EOAs were provided training in December 1997 at the Major Command Equal Opportunity Conference. The entire 150-page Consideration of Others Handbook was placed on the ODCSPER Web site for Internet access throughout the force. Newly assigned EOAs are being trained on the Consideration of Others Program

during the Army-specific portion of the EOA course at the Defense Equal Opportunity Management Institute.

The Army is distributing to all soldiers wallet cards and neck tags listing the Army values—loyalty, duty, respect, selfless service, honor, integrity, and personal courage. A DA message of 29 July 1998 prescribed the manner in which the Army values wallet card and identification tag would be issued and subsequently carried or worn. Company commanders or first sergeants were directed to lead a discussion of or make a presentation to their companies on the importance of living by Army values as soldiers. They then were told to issue the cards and tags to each soldier, who in turn would sign the card in front of their company commander or first sergeant. Soldiers carry the signed Army values cards with them and wear the Army values tags along with their identification tags at all times. The Active Army has a suspense of 30 October 1998 and the Reserve and National Guard a suspense of 1 February 1999 to complete distribution of cards and tags. A total of 1,200,000 cards were distributed to the Active Army, the Army Reserve, and the National Guard.

Accomplishment of the Alcohol and Drug Abuse Prevention and Control Program (ADAPCP) mission was made mandatory Army-wide in FY 1998. At HQDA, the deputy chief of staff for personnel became the overall proponent of the ADAPCP. Within the ODCSPER, the director of human resources, who is also the director of the Army Center for Substance Abuse Program, had the leadership role. He coordinated with the surgeon general and commander of the U.S. Army Medical Command to establish ADAPCP policy in the manner specified in AR 600-85, *Alcohol and Drug Abuse Prevention and Control Program* (1 May 1978).

During FY 1998, the ADAPCP enrolled 9,832 individuals in the treatment program. Of this number, 8,592 (87.39 percent) were active-duty soldiers, whereas the remaining 1,240 (12.61 percent) fell into other eligibility categories: Reserve, Guard, federal civilian employees, Army retirees, and cadets. For 80.31 percent of enrollees, alcohol misuse was the reason for entrance into the program, whereas cannabis use accounted for 11.60 percent and cocaine use was the third-most frequent reason (3.71 percent). Other drugs (amphetamines, hallucinogens, inhalants, opiates, phencyclidine, and sedatives) combined to account for the remaining 4.38 percent of enrollments. Self-referrals produced 26.57 percent of ADAPCP cases, commander or supervisor referrals were 22.45 percent, referrals involving charges of driving under the influence of alcohol or driving while impaired were 15.34 percent, and biochemical testing produced 13.20 percent of the referrals. The remaining 22.44 percent of ADAPCP cases arose from other sources, including medical referral and law enforcement investigation or apprehension. Individuals who were screened and not enrolled in the ADAPCP totaled 8,106. Of that number, 4,453 (54.93

percent) were referred to the ADAPCP remedial Alcohol and Drug Abuse Prevention Training Program. Of the 1,076,361 urinalysis specimens taken from active-duty soldiers, 8,682 specimens tested positive, for a positive rate of 0.81 percent.

Worldwide Army commitments frequently produce unusual and unpredictable personnel demands. The ODCSPER Personnel Contingency Cell (PCC) monitored, coordinated, and directed personnel activities for numerous significant activities and events during FY 1998. Operations and contingencies that the PCC supported included Operations JOINT GUARD and JOINT FORGE in European Command (all year); Operation SOUTHERN WATCH in Central Command (February–June 1998, including activation of a Crisis Action Team in the PCC from 16 February to 2 March 1998); U.S. Support Group Haiti in Southern Command (all year); Joint Task Force-Bravo in Southern Command (all year); and Military Observer Mission Ecuador and Peru in Southern Command (all year). Table 10 shows the approximate number of individual augmentation requests processed by the PCC in response to contingencies in FY 1998.

The PCC also supported a variety of exercises (planning and execution of POSITIVE RESPONSE 98 [15–24 October 1997], planning for POSITIVE RESPONSE 99 [subsequently canceled], and POSITIVE RESPONSE Y2K), exercises testing contingency plans for Army information systems, and planning and execution of HQDA command-post exercise MINIEX 98-1 (28–30 September 1998).

TABLE 10—INDIVIDUAL PERSONNEL AUGMENTATION REQUESTS, BY MAJOR COMMAND: FY 1998

COMMAND	*APPROXIMATE NUMBER OF REQUESTS PROCESSED*
Atlantic Command	0
Southern Command	41
European Command	843
Central Command	135
Pacific Command	0
Other[a]	39
Total	1,058

[a] Includes United Nations, joint, special operations forces, and military support to civilian agencies.

The secretary of the Army is the DOD executive agent responsible for repatriation plans and operations in connection with the return of DOD noncombatant evacuees. The secretary, in turn, delegates this responsibility to the deputy chief of staff for personnel. Repatriation, the final stage in noncombatant evacuation, is the official processing of American citizens back into the United States after their evacuation from overseas. As executive agent, the Army directs repatriation operations within the DOD by coordinating with the Office of the Secretary of Defense, the Office of the Joint Chiefs of Staff, the U.S. Transportation Command, and the geographic commanders in chief, and it coordinates with the State Department and other federal, state, and local agencies in planning for the reception and onward movement of U.S. citizens and designated aliens to the continental United States, Hawaii, and Alaska.

The Army's repatriation plans directly support the evacuation plans developed by each theater commander. The executive agent for repatriation operations has designated specific installations and bases throughout the United States as repatriation centers to process DOD military and civilian family members as well as private citizens and third-country nationals. During the planning of an evacuation, the DOD executive agent meets with and advises other federal agencies as to which repatriation center or centers will be activated to receive evacuees. Based on the situation, repatriating personnel may return by commercial flights to multiple aerial ports of debarkation instead of repatriating en masse to or through a single designated continental U.S. repatriation site.

Evacuation activity increased significantly this fiscal year. Nineteen posts were evacuated in FY 1998 (compared with eight posts in FY 1997): Kinshasa, Democratic Republic of Congo (October 1997); Dushanbe, Tajikistan (November 1997); Jerusalem, Israel (February 1998); Kuwait (February 1998); Tel Aviv, Israel (February 1998); Togo (April 1998); Jakarta, Indonesia (May 1998); Asmara, Eritrea (June 1998); Guinea-Bissau (June 1998); Dar es Salaam, Tanzania (August 1998); Islamabad, Pakistan (August 1998); Karachi, Pakistan (August 1998); Kinshasa, Democratic Republic of Congo (August 1998, second instance); Lahore, Pakistan (August 1998); Nairobi, Kenya (August 1998); Peshawar, Pakistan (August 1998); Tirana, Albania (August 1998); Monrovia, Liberia (September 1998); and Phnom Penh, Cambodia (September 1998). The majority of these evacuations resulted from the high threat of terrorism or direct terrorist attack (ten posts). Only the evacuation of the four posts in Pakistan in September 1998 required the establishment of a continental U.S. repatriation site. The evacuations during FY 1998 consisted primarily of small numbers of dependents and nonessential personnel leaving under individually arranged travel itineraries. Only one evacuation during FY 1998, the evacuation of Eritrea in June 1998 as a consequence of its border dispute with Ethiopia, required military

assistance: In this case, U.S. Marine ground forces and aircraft evacuated 172 American citizens and third-country nationals from Asmara, Eritrea, to Amman, Jordan, as a precautionary measure.

4

Force Development, Training, and Operational Forces

Blueprint for the Future

In FY 1998, the U.S. Army continued in its efforts to exploit advances in information technology to achieve the Army Vision 2010 objective of full-spectrum dominance: the ability of U.S. forces, operating unilaterally or in combination with multinational and interagency partners, to defeat any adversary and control any situation across the full range of military operations. The Army's initiative, called Force XXI, focuses on digitization—the application of digital information technologies to acquire, exchange, and employ data throughout the battlespace.

Digitization enables warfighters to share critical situational understanding and command-and-control information, thus reducing many of the constraints imposed by hierarchical military organization. This capability would allow U.S. and allied forces to share a constantly updated common view of both friendly and enemy dispositions on the battlefield. Digitized forces could exploit this advantage to maneuver with greater speed and decisiveness than any undigitized adversary, exploiting enemy vulnerabilities while removing their own vulnerabilities from the compass of hostile action. Digitization is not a program in the traditional acquisition sense; rather, it is a strategy to integrate advanced command-and-control systems, weapons systems, the training of the soldiers operating these systems, and the doctrine for employing them. The digitization process involves upgrading or modifying some existing systems; adding a supplementary "appliqué" capability to others; and ensuring that future systems have information technologies "embedded," or built in, as an integral part of the system, when appropriate. Digitized systems will be developed in compliance with a common set of standards, ensuring interoperability and enhancing efficiency through reuse of software developed for other applications. The Army's strategy for digitization includes experimentation, evaluation, and acquisition intended to equip the first digitized division, the 4th Infantry Division at Fort Hood, Texas, by the end of FY 2000 and the first digitized corps by the end of FY 2004. As of the end of FY 1998, the total cost of the digitization effort in FY 2000 is projected to be $2.8 billion, a part of the Army total obligation

authority to existing programs. This expense does not include program costs, such as those for the M1A1 Abrams tank and M2A2 Bradley fighting vehicle; rather, it includes only the cost of integrating digital technologies into these platforms.

The Chief of Staff, Army, approved the Army Experimentation Campaign Plan (AECP) in May 1998 to capitalize on the successes of the Task Force XXI and Division advanced warfighting experiments (AWEs). The AECP encompasses three force-design efforts—for future mechanized forces, light forces, and "strike forces" (replacements for existing armored cavalry regiments)—with the intents of achieving Army XXI goals as well as developing the capabilities required to field the Army After Next (AAN) in the 2015–25 period. AECP efforts are consistent with Army modernization goals of digitizing the force, sustaining essential research and development, and focusing development for radically advanced information technologies to equip the AAN. Already, the Force XXI Battle Command Brigade-and-Below limited user test in August 1998 has demonstrated significant improvement over results gained in the Task Force XXI AWE.

The Army has continued to pursue efforts with the other services and with allies to ensure interoperability and seamless communications throughout the battlespace. In FY 1998, a joint contingency force (JCF) AWE was planned for September 2000, focusing on crisis response and rapid deployment. The JCF AWE objectives are to improve the effectiveness of C4ISR command, control, communications, computers, intelligence, surveillance, and reconnaissance for a joint task force (JTF) through digitization, enhanced communications, and interoperability of systems, processes, and procedures. The JCF AWE is also intended to enhance the conduct of JTF operations in urban and restricted terrain. Additionally, the JCF AWE would facilitate identification of new systems or linkages that increase JTF lethality and survivability in the austere support conditions of rapid-deployment operations while expanding the battlespace by using advanced sensors in restricted terrain. The JCF AWE will serve as a venue for joint experimentation in conjunction with U.S. Atlantic Command's (ACOM's) joint experimentation process.

Force Development

The Army announced a new structure for its heavy divisions in June 1998; corresponding designs for new army corps, light divisions, and strike forces are to follow. The previous standard heavy division had 18,069 soldiers in its mechanized variant and 17,832 in its armored variant. The new divisional organization, called Division XXI, includes 15,812 for the mechanized division variant (15,299 active component [AC], 513 reserve component [RC]) and 15,593 for the armored division variant (15,080 AC, 513 RC). As with previous heavy division structures, the two division types

will share a common division base; however, the mechanized division will have five mechanized infantry battalions and four armor battalions in its three maneuver brigades, whereas the armored variant will have four mechanized infantry and five armor battalions. Division XXI has been designed to conduct distributed operations to seize and maintain the operational initiative, to defeat enemy forces, and to control populations and terrain. The Division XXI force design takes advantage of the increased situational awareness offered by digitization to improve the synergy inherent in the combined-arms team. Improved situational awareness enables maneuver forces to move to points of positional advantage with greater speed and precision, avoiding enemy strengths, and then to combine effects of direct and indirect fire to achieve their objectives.

The Army designated the 4th Infantry Division as the experimental force for digitized armored and mechanized operations. The division serves as the Army's experimental unit for new ideas in the areas of doctrine, training, leader development, organizations, materiel, and soldiers and the testing of information technologies. It spent much of FY 1998 conducting tests in support of heavy-division redesign and digitization. As of the end of FY 1998, the 4th Infantry Division was scheduled to conduct a two-phased division capstone exercise in FY 2001 to demonstrate its warfighting capability. The exercise calls for a live brigade-level National Training Center (NTC) rotation at Fort Irwin, California, in March 2001 and a computer-based Battle Command Training Program (BCTP) warfighter exercise at Fort Hood later in 2001.

Training

The 1997 Quadrennial Defense Review recommended that man-days allotted for joint exercises decrease by 15 percent between FY 1996 and FY 1998 to ease the high personnel tempo of U.S. forces and improve force management. The FY99 Defense Planning Guidance therefore directed the services to reduce man-days for chairman, Joint Chiefs of Staff (CJCS), exercises by 15 percent from the FY96 level. In formulating the FY99–2003 Program Objective Memorandum, the Army reduced funding for CJCS exercises to comply with the Quadrennial Defense Review and the Defense Planning Guidance. Over the past two years, the unified commands have been working with their service components to reduce CJCS exercise man-days. Since 1996, Army participation in the CJCS exercises has been reduced. The most significant reductions have been in large-scale field-training exercises, which have been replaced by computer-assisted exercises. Army commands frequently participate in these computer-assisted exercises from home station, further reducing deployment days. During FY 1998, the Army continued efforts to reduce deployment demands on unit personnel.

The Army cut the number of rotations conducted at combat training centers and continued to develop a family of simulations that would minimize the amount of field training required to sustain readiness of the combined arms forces. Nonetheless, the pace of operational and training deployments challenged active Army units, so RC units were increasingly used to meet these requirements.

Despite these pressures, the combat training center program conducted an extensive array of activities. The BCTP, which provides combat training for brigade, division, corps, and higher joint-force commanders and staffs at their home stations, conducted four AC division warfighter exercises, three computer-based embedded warfighter exercises, and thirteen National Guard brigade warfighter exercises. The BCTP also conducted six joint exercises. Significant activities included a mission rehearsal exercise for the 1st Cavalry Division to support deployment for the DESERT THUNDER Joint Coalition Task Force operating in Kuwait. Preparations began for the FUERTAS DEFENSAS proof-of-principle exercise to be conducted as part of a larger inclusive warfighter exercise for XVIII Corps.

The Combat Maneuver Training Center Hohenfels, Germany, conducted five U.S. and four allied training rotations. Significant events included training the 1st Armored Division for contingency operations to take over the NATO (North Atlantic Treaty Organization) Stabilization Force (SFOR) mission in Bosnia. The Joint Readiness Training Center (JRTC), Fort Polk, Louisiana, executed ten rotations in FY 1998, including one Army National Guard, one U.S. Army Pacific Command, and one U.S. Army Special Operations Command. Also, one mission rehearsal exercise was conducted for the 2d Armored Cavalry Regiment in preparation for deployment to Bosnia to take over SFOR duties. FY98 JRTC rotations included reciprocal unit exchanges with Australia, Germany, Indonesia, and the United Kingdom. Over time, the JRTC focus on training light infantry for force-on-force conflicts has shifted significantly. In FY 1998, scenario development placed greater emphasis on peacekeeping and current operational issues, with increased numbers of civilians on the battlefield.

The NTC, Fort Irwin, California, conducted nine rotations. The tenth rotation in the year's schedule was cancelled when the 3d Infantry Division was selected for deployment to Kuwait. In August 1998, the NTC hosted a rotation focusing on the engineer Bradley fighting vehicle. The 101st Airborne Division (Air Assault) conducted its first NTC rotation in more than ten years in November 1997. In the rotation, an aviation brigade headquarters served as the controlling headquarters for the first time in an NTC rotation. In FY 1998, the total number of scheduled rotations at the NTC was reduced from twelve to ten (nine active rotations and one National Guard rotation), and the NTC conducted a test of a thirty-one–day rotation. The NTC Opposing Force (OPFOR) commenced replacement of its existing

BMP-2 surrogate with the new OPFOR surrogate vehicle. The older vehicle was an M551 armored reconnaissance/airborne assault vehicle visually modified to resemble the Russian BMP-2 infantry combat vehicle. The M551 is passing out of the Army inventory; therefore, the OPFOR surrogate vehicle, based on the currently serving M113 armored personnel carrier, is being substituted.

The Army sought to expand its training areas in FY 1998. A requirement existed for additional land at Fort Irwin. The Army considered withdrawal from public domain or purchase of approximately 330,000 acres on the northeast boundary of the installation, or withdrawal or purchase of approximately 260,000 acres on the southern boundary. The Bureau of Land Management, Department of the Interior, prepared the required environmental documents. At Fort Polk, the Army worked on obtaining a special-use permit from the U.S. Forest Service at no cost to allow intensive training activities on forty-five thousand acres of Kisatchie National Forest. This area is located south of the installation and was in a limited-use category. Fort Polk has prepared an environmental assessment, with the Forest Service as a cooperating agency, to accommodate intensive training. Completion of the assessment is anticipated in September 1999. At McGregor Range, Fort Bliss, Texas (609,305 acres); Yukon Maneuver Area, Fort Wainwright, Alaska (247,952 acres); and the Maneuver Area at Fort Greely, Alaska (661,341 acres), the Army has been using land under withdrawals from public domain that expire in 2001. The Army has completed draft environmental impact statements and has submitted requests for renewal of the existing withdrawals to the Bureau of Land Management. The Army expects to send final environmental impact statements for the renewals to Congress in April 1999. At Kahuku Training Area, Schofield Barracks, Hawaii, the Army has been leasing approximately eight thousand acres at an annual rent of $936,000. Congress funded acquisition of the land for FY 1999 as a congressional addition of $23.5 million, with completion anticipated in February 1999.

The Army sought to improve virtual as well as physical training facilities. The service has engineered a consensus-based process for developing and promulgating modeling and simulation (M&S) standards. The *Army Model and Simulation Master Plan* of October 1997 formalized the process for development of Army M&S standards. Under this plan, teams of experts from government, industry, and academia identified standardization requirements in nineteen different M&S areas. The teams then constructed and refined standards and submitted them to senior Army and Department of Defense (DOD) experts for review and approval. In June 1998, the process was largely automated using a Web-based tool that facilitated nomination and review of proposed standards. Approved M&S standards were then housed in a central, Web-based repository called the Army Standards Repository System (available at http://www.msrr.army.mil/astars/), where they were

easily accessible to simulation developers and M&S users. These approved standards provided a solid foundation for development of future simulations, thus making the verification and validation process faster and simpler. Initial efforts to identify and exploit existing products that show promise for reuse have focused on the training exercises and on the military operations and advanced concepts as well as the requirements domains. In addition, the Army Model and Simulation Office initiated a concerted effort to encourage program managers to identify M&S-related problems tending to increase costs and then to develop M&S standards to address them.

The Army received its first close combat tactical trainer (CCTT) at Fort Hood, Texas, in June 1998. The CCTT is a network of M1A1, M1A2, and M2A2 simulators that facilitates armor and infantry collective training up to the company and team level. All of the battle operating systems, including combat support and combat service support, are also present in semiautomated forces form. Semiautomated forces are computer-generated friendly and enemy forces used to complete a realistic battlefield simulation, which gives the CCTT an additional capability for battalion task force training. The CCTT is the lead program to modernize fully the Army's virtual training capability.

Deployed Forces

During FY 1998, the Army had a daily average of 28,420 soldiers deployed in seventy-six countries to conduct joint and combined operations and training exercises. While the Army trained to fight two nearly simultaneous major theater wars, it also conducted many concurrent, smaller-scale contingency and support operations. In ACOM, approximately sixteen hundred soldiers participated in various counterdrug missions in California, Florida, and Texas. The missions included several engineering projects, such as upgrading roads, constructing fences, and installing stadium lighting. Other missions included air reconnaissance, transportation, and intelligence analysis.

In November 1997, three hundred soldiers from the staffs of the 3d Brigade, 40th Infantry Division, California Army National Guard, and subordinate battalions participated in PEACESHIELD 97, a joint, bilateral, computer-assisted exercise designed to expand the scope of Ukraine–U.S. military relations and enhance interoperability through the practice of combined peacekeeping operations at the brigade level. PURPLE DRAGON 98 was conducted in January and February 1998 as part of ACOM's JTF exercise series. The exercise centered on the certification for deployment of a carrier battle group and an amphibious ready group, joint-force entry operations, and joint ground combat operations. Army participants included approximately 10,500 soldiers from the XVIII Airborne Corps and the U.S.

Army Special Operations Command. The area of operations included the entire eastern seaboard, from Virginia to Puerto Rico. Land maneuver areas were concentrated around Fort Bragg, North Carolina.

Exercise ROVING SANDS 98 (14–26 April 1998) was a joint tactical air operations field training exercise, scheduled by the ACOM and sponsored by Army Forces Command (FORSCOM). The exercise, emphasizing ground-based air and missile defense, employed Army, Air Force, and Marine Corps elements, along with allied forces from France, Germany, Holland, and the United Kingdom. The area of operations was more than fourteen thousand square miles of military installations and training ranges at Fort Bliss and White Sands Missile Range. ROVING SANDS 98, recognized as the world's largest joint air defense training exercise, involved approximately five thousand U.S. Army soldiers from the 11th, 31st, and 35th Air Defense Artillery Brigades; the 1st Battalion (Theater High Altitude Area Defense), 6th Air Defense Artillery Brigade; and the 16th and 40th Signal Battalions.

During June 1998, the FORSCOM deployed approximately 540 soldiers from the Florida Army National Guard and 30 soldiers from the Georgia Army National Guard to fight wildfires in Florida. The president declared the entire state of Florida a federal disaster area and directed the Department of Defense to render support. The FORSCOM was designated the executive agent for the Army for this operation and was given authority to direct ACOM service component commanders to deploy forces for the firefighting effort.

The U.S. Central Command (CENTCOM) carried out a variety of operations and exercises with Army involvement. Operation DESERT FALCON, the air and missile defense mission in Saudi Arabia and Kuwait, continued throughout FY 1998; task forces rotated approximately every four months. Operation DESERT FOCUS, the force protection mission in Saudi Arabia and Kuwait, commenced in the wake of the 25 June 1996 truck-bombing by terrorists of the U.S. military compound at Khobar Towers in Dhahran, Saudi Arabia, and continued through FY 1998. Operation SOUTHERN WATCH, a multinational joint operation with forces deployed throughout Southwest Asia, continued to enforce the no-fly zone in Southern Iraq. The CENTCOM has supported this operation since April 1991 and has maintained a forward presence in Kuwait, Qatar, and Saudi Arabia.

INTRINSIC ACTION is a combined field-training exercise, with near-continuous presence, conducted with Kuwaiti host-nation forces. When rotated to the exercise, the participating U.S. element, a heavy battalion task force, routinely employs combat equipment from Army pre-positioned stocks in Kuwait. INTRINSIC ACTION increases regional stability and serves as a visible deterrent to potential regional aggression. The Multinational Force and Observers (MFO) is a multinational peacekeeping operation established by a 3 August 1981 protocol to the 26 March 1979 treaty of peace between Egypt and Israel. The MFO has operated checkpoints, reconnaissance patrols,

and observation posts along the international boundary to observe, report on, and periodically verify the implementation of the treaty provisions. U.S. participation in the MFO mission consists of one infantry and one support battalion. Battalion-sized task forces of approximately 530 personnel rotate approximately every six months. The CENTCOM has conducted BRIGHT STAR, a joint combined training exercise in Egypt, every two years. Approximately four thousand U.S. Army soldiers participated in this exercise during October 1997.

The CENTCOM Humanitarian Demining Program was designed to assist designated countries with funding, equipment, and training for demining operations; mine-awareness education; and development of a permanent infrastructure to dispose of hazardous land mines. During FY 1998, the CENTCOM commander in chief established a special forces liaison team to rotate between Eritrea and Ethiopia from February through September to coordinate efforts between the host nations, diplomatic teams from the U.S. embassy in each country, and the CENTCOM. In addition, during FY 1998, a CENTCOM civil affairs liaison team deployed to Yemen. The team coordinated with Yemeni and embassy officials to assist with the infrastructure and training for the Yemen demining program.

The European Command (EUCOM) conducted extensive operations in the Balkans in FY 1998. Soldiers from the 2d Armored Cavalry Regiment continued the Operation JOINT GUARD mission through June 1998. The purpose of JOINT GUARD was to sustain peace and stability in Bosnia-Herzegovina by deterring a resumption of hostilities, promoting a climate in which the peace process could proceed, and assisting in selected areas of civil implementation. The specific tasks of the security forces included patrolling the zone of separation, monitoring the militaries of the former warring factions through oversight of their movement and training, and enforcing the Bosnian no-fly zone. In Operation JOINT FORGE, the North Atlantic Council authorized a slightly smaller successor force in June 1998 to deter a resumption of hostilities and continue stabilizing the peace in Bosnia-Herzegovina. Soldiers of the 1st Armored Division have been assigned this mission. MOUNTAIN EAGLE VI, a company-level situational training exercise and field training exercise held by the U.S. Army Europe (USAREUR) and V Corps from 1 to 15 May 1998 at Hohenfels, Germany, constituted a mission rehearsal exercise for the 2d Brigade, 1st Armored Division, as part of its preparation to replace the 2d Armored Cavalry Regiment in Bosnia-Herzegovina. The brigade trained in simulated peacekeeping and peace enforcement situations to develop the special skills necessary for successfully conducting operations in Bosnia-Herzegovina. Task Force ABLE SENTRY was the U.S. contribution to the United Nations (UN) Preventive Deployment (UNPREDEP) peacekeeping mission in the Former Yugoslav Republic of Macedonia; task forces rotated approximately every six months. The UN Security Council extended the UN

mandate for the UNPREDEP until February 1999. Operation BALKAN CALM was the EUCOM's contribution to the joint DOD and Department of State observer teams in the Serbian province of Kosovo, operating as part of the Kosovo diplomatic observer mission. Twelve EUCOM personnel (including one USAREUR officer) deployed to Kosovo on 7 August 1998.

STRONG RESOLVE (March 1998) is a NATO exercise with a strong USAREUR component designed to test contingency deployment of the Allied Command Europe Mobile Force, its affiliated multinational force, and the NATO Composite Force to NATO's Northern Contingency Area in Norway. STRONG RESOLVE marked the first UN participation in a regional training exercise. In supporting this effort, the UN helped create the mission environment for the participants by providing civilian and military personnel to fill key exercise positions, ensuring that the UN's unique and multinational nature was incorporated into the training event. The exercise included presentations by UN training assistance teams personnel on issues ranging from logistics to the coordination of humanitarian operations.

USAREUR also carried out missions in Africa. The African Crisis Response Initiative (ACRI) is a EUCOM program that uses U.S. special forces mobile training teams to conduct initial training of one infantry battalion and its associated combat support and combat service support units in each participating African nation. The state department established the ACRI in 1996 to develop an African-manned and -led response force for regional contingencies, such as humanitarian relief operations and peacekeeping operations, and thereby to reduce the burdens on U.S. resources. Army special operations forces, augmented by engineers and medical and logistics personnel as required, conduct training of units from selected African countries in UN-approved humanitarian relief and peacekeeping tasks. The initial eight to ten weeks of training culminate in a battalion field-training exercise. Sustainment training occurs later and prepares the units for incorporation into multinational operations. Thirty- to sixty-person mobile training teams deployed to Benin, Côte d'Ivoire, Ghana, Malawi, Mali, Senegal, and Uganda during FY 1998 as part of the ACRI. The U.S. Department of State provided funds for the equipment and training. The EUCOM Humanitarian Demining Operations Program conducted missions in Chad, Mozambique, Namibia, Rwanda, and Zimbabwe during FY 1998. USAREUR's 30th Medical Brigade deployed a twenty-person forward surgical support team and a seven-person combat stress control team to Nairobi, Kenya, in support of Operation RESOLUTE RESPONSE. Their mission was to provide medical assistance to U.S. citizens and Kenyan nationals in the aftermath of the 7 August 1998 terrorist bombing of the U.S. embassy in Nairobi.

USAREUR also took part in operations in the Mediterranean Basin and Southwest Asia. NOBLE SAFEGUARD is a joint air defense task force, led by USAREUR, that was formed to respond to specific contingencies in the

Mediterranean region. The task force includes both command-and-control and air defense elements drawn from V Corps, which deployed to the Persian Gulf region in FY 1998 to augment CENTCOM theater air defenses. The Beirut Air Bridge, a joint operation including USAREUR elements, ended in mid-August 1998 after having provided aviation support to the U.S. embassy in Beirut since 1984. NORTHERN WATCH, a multinational combined task force with headquarters in Incirlik, Turkey, has the mission of enforcing the no-fly zone in Northern Iraq. During FY 1998, the USAREUR supported the combined task force commander by providing sixteen soldiers to augment the NORTHERN WATCH staff and one C–12 aircraft with two pilots for command aviation support. USAREUR support to NORTHERN WATCH began in April 1991. The task force activities have been carried out in concert with the CENTCOM's corresponding SOUTHERN WATCH operations in the southern no-fly zone. In Operation PROVIDE COVER, Atlantic and European Commands provide Patriot air defense task forces (750 soldiers) on a rotational basis to the commander in chief, CENTCOM, for contingency employment in the that command's area of responsibility. Rotations normally last from four to six months, with the USAREUR responsible for every third rotation. The USAREUR's 6th Battalion, 52d Air Defense Artillery, 69th Air Defense Artillery Brigade, was certified by the brigade commander on 18 May 1998 and assumed the mission on 1 June 1998.

The Army took part in several joint and combined operations in the Pacific Command (PACOM) during FY 1998. Army civic action teams provided socioeconomic assistance to the Federated States of Micronesia and to Kwajalein Atoll in the Marshall Islands through a variety of construction and engineering projects along with programs for apprenticeship training, community relations, and medical civic action. The teams consisted of soldiers from the 84th Engineer Battalion, 25th Infantry Division, and the Special Troop Battalion, U.S. Army, Alaska. Army forces provided humanitarian assistance to several countries. The forces repaired a pier and constructed a community sanitation facility in the Marshall Islands, provided training expertise to several civilian medical clinics and hospitals throughout the Solomon Islands and in Sri Lanka, and constructed a multipurpose building in Tonga. Joint Task Force-Full Accounting was a joint investigation and recovery operation in Laos and Vietnam. Technical representatives of Laos, the Socialist Republic of Vietnam, and the United States conducted joint investigations and remains recovery operations pertaining to Americans unaccounted for from the Vietnam War.

In addition to these operations, elements of the U.S. Army, Pacific, participated in a number of joint and combined exercises. Most important of these were the annual PACOM Joint Chiefs of Staff (JCS) exercises, ULCHI FOCUS LENS, FOAL EAGLE, and the reception, staging, onward movement, and integration exercise in Korea, as well as ORIENT SHIELD in Japan. Other

major but non-JCS exercises conducted in Japan in FY 1998 by the U.S. Army, Pacific, were YAMA SAKURA, KEEN EDGE, and NORTHWIND. During FY 1998, U.S. Army forces in the PACOM participated in joint combined exchange training programs in several countries, including Korea, Indonesia, Thailand, and Tonga.

In the Southern Command (SOUTHCOM), U.S. Army, South, took part in a variety of operations and exercises in FY 1998. Operation SAFE BORDER continued to provide support to the Military Observer Mission Ecuador and Peru (MOMEP) in the disputed region between the two nations. Originally, the support to the MOMEP was to be of ninety days' duration, but because of the success of the operation, it was extended indefinitely. Exercise NEW HORIZONS is a reserve component humanitarian civic assistance exercise designed to enhance the mission-essential task list skills of participating units while contributing to the improvement of designated countries' infrastructure. This exercise has been conducted annually in the Bahamas, Ecuador, El Salvador, Honduras, and Jamaica. Exercise FUERZAS ALIADAS was a joint and combined command post exercise designed to facilitate multinational disaster-relief training for crisis action teams in the SOUTHCOM area of responsibility. Approximately 329 personnel from Central American and Caribbean island nations and approximately one hundred U.S. Army soldiers participated in this exercise. Exercise TRADEWINDS 98 was a joint and combined training exercise sponsored by the U.S. Army South (USARSO). The exercise consisted of four phases: maritime, ground force, disaster command post exercise, and security field training exercise. Units from the USARSO, the Special Operations Command South (SOCSOUTH), the U.S. Coast Guard, the United Kingdom Royal Marines, the Regional Security System, and the Caribbean Community participated in TRADEWINDS 98.

Army Special Operations Forces

Composing nearly 70 percent of the DOD's special operations forces (SOF) personnel, Army Special Operations Forces (ARSOF) consist of special forces, Rangers, special operations aviation, civil affairs (CA), and psychological operations (PSYOP) units. During FY 1998, 31,572 ARSOF soldiers deployed on operations and training exercises to 112 countries around the world.

In Bosnia, the SOF mission for Operations JOINT ENDEAVOR and JOINT GUARD has been to conduct special forces, civil affairs, and psychological operations in support of the NATO forces to deter hostilities and promote a stable environment in Bosnia-Herzegovina. This mission has been accomplished by attaching ARSOF to designated NATO and non-NATO units, where they perform liaison with former warring factions; assist the integration of all units; assist in the implementation of peace accords; and

provide a rapid response capability for combat search and rescue, personnel recovery, special reconnaissance, and direct action. Units were subordinate to the NATO Stabilization Force through the Combined Joint Special Operations Task Force (CJSOTF), although PSYOP and CA forces were each organized under separate task forces.

Each Multinational Division—North, Southeast, and Southwest—within Bosnia is assigned a special operations command-and-control element (SOCCE) that controls the joint commission observer teams, which are stationed in key locations to serve as honest brokers in maintaining communications among all factions and SFOR commanders, within each division sector. Additionally, the SOF supports liaison coordination elements, which work for the multinational battalions to provide linguists and secure communications to the forward operating base and the CJSOTF. This SOF presence improved coordination and minimized misunderstanding. An average of ninety SOF soldiers were deployed to Bosnia-Herzegovina throughout FY 1998.

To help implement the peace agreement in Bosnia-Herzegovina, the Joint Civil–Military Operations Task Force was established to conduct civil–military operations in support of the commander, Stabilization Force (COMSFOR). The task force promotes cooperation with the civilian population, various agencies, and national governments; facilitates unified civilian effort in support of the NATO peace plan for regional stabilization; and prepares to respond to humanitarian, public safety, and public health contingencies. An average of about 129 civil affairs personnel were deployed in Bosnia during FY 1998. These soldiers were integrated into the SFOR from the headquarters down to the conventional units in the field. The Joint Psychological Operations Task Force was established to support the COMSFOR by encouraging cooperation and noninterference with the peace implementation process; deterring armed resistance to SFOR activities; reducing accidental injuries and death from unexploded munitions; and facilitating the transition to local policing at the completion of the NATO mission. PSYOP forces provided direct support to SFOR maneuver units and higher levels to promote safety, security, and support for the SFOR mission. An average of fifty-five PSYOP soldiers were deployed in Bosnia during FY 1998.

SOF activities in Kuwait revolve around continuing a permanent "tip of the spear" presence, enhancing command-and-control, integrating joint forces, and coordinating joint and combined war plans as part of exercise IRIS GOLD. That exercise series involves the permanent presence of one special forces company, which rotates every 120 days. This company trains with Kuwaiti armed forces units and conducts its own internal training program. During FY 1998, IRIS GOLD forces and the SOCCE-Kuwait supported U.S. Army Forces, Central Command, in exercise INTRINSIC ACTION. They also

participated in training with close air support units of Joint Task Force-Southwest Asia as well as forward-deployed U.S. Navy SEAL and Special Boat Units.

ARSOF supported a variety of U.S. operations in Haiti with a military information support team (PSYOP), ministerial advisory teams (CA), and mission area analysis (special forces). The focus was on assisting the Ministry of Interior, the Ministry of Justice, and the Ministry of Contraband and Customs. ARSOF participated in exercise FAIRWINDS to provide CA support for humanitarian civic action construction projects.

ARSOF also functioned as the primary DOD means to execute the geographic commanders in chief's humanitarian demining operations. In FY 1998 a total of 385 ARSOF soldiers trained 1,206 host-nation demining personnel in seventeen countries: Angola, Bosnia. Cambodia, Chad, Costa Rica, Eritrea, Ethiopia, Guatemala, Honduras, Jordan, Laos, Lebanon, Mozambique, Namibia, Nicaragua, Rwanda, and Yemen. Special operations forces supported the geographic commanders in chief's humanitarian demining operations with a mix of CA, PSYOP, and special forces soldiers. CA personnel helped host nations develop self-sustaining infrastructures to ensure that a national demining organization exists to oversee and sustain the program. The PSYOP trained and assisted host nations in creating multimedia campaigns, which developed or increased mine awareness within the public. Special forces trained host-nation militaries in mine clearance techniques, such as locating, mapping, and destroying mines in place (SOF soldiers, however, never participate in actual mine-clearance activities).

ARSOF played a key role in the U.S. counternarcotics program in FY 1998, assisting host-nation efforts by providing assistance in training, planning, and organizing counternarcotics programs and forces in the host nations. ARSOF do not deploy on actual counternarcotics operations with host-nation forces. The Army provided counternarcotics assistance to the Bahamas, Belize, Bolivia, Colombia, Costa Rica, the Dominican Republic, Ecuador, Greece, Guatemala, Jamaica, Malaysia, Peru, Thailand, and Venezuela.

The Headquarters, Department of the Army (HQDA), Special Operations Division supported, monitored, and assisted a number of other actions. In FY 1998, the SOCSOUTH relocated from Quarry Heights, Panama, to Roosevelt Roads, Puerto Rico, in compliance with the 1977 Panama Canal Treaty that mandates the departure of all U.S. military forces from Panama by 31 December 1999. Initial indications were that the SOCSOUTH—including its organic Army units, Company C, 3d Battalion, 7th Special Forces Group (Airborne), and D Company, 160th Special Operations Aviation Regiment—would be able to remain in Panama. However, when negotiations broke down with the government of Panama in July 1998, a new location was required. The SOCSOUTH, with direction from the commanders in chief, South,

developed criteria to select a new location. Candidate sites included Fort Benning, Georgia; Fort Polk, Louisiana; Soto Cano, Honduras; and several sites in Florida and Puerto Rico.

The civil affairs force structure changed in FY 1998 to conform to new operational and institutional features. In accordance with the unified command plan change that transferred responsibility for the Caribbean from the Atlantic Command to the U.S. Southern Command, the 361st Civil Affairs Brigade (the existing USAR civil affairs brigade that supported the SOUTHCOM) became the 350th Civil Affairs Command. Creation of the fourth CA command standardizes CA command-and-control force structure throughout the U.S. Army. CA force structure thus totals four civil affairs commands and eight civil affairs brigades. The total of twenty-one general purpose battalions and three foreign internal defense/unconventional warfare battalions remained the same. Also during FY 1998, the U.S. Army John F. Kennedy Special Warfare Center and School requested an exception to policy for the establishment of a PSYOP regiment for affiliation with the psychological operations career management field 37 and Functional Area 39B. Before this, there was no regimental affiliation established for PSYOP soldiers. On 15 July 1998, the HQDA approved the establishment of a PSYOP regiment.

In February 1997, the chief of staff, U.S. Forces Korea (USFK), expressed concern to the deputy chief of staff for operations and plans (DCSOPS) about Special Operations Command, Korea's, lack of equipment authorizations and the resulting impact on readiness. The DCSOPS advised the chief of staff, USFK, that no joint policy or guidance existed for authorizing equipment for the theater special operations commands. On 15 January 1998, the director of the Joint Staff approved Chairman of the Joint Chiefs of Staff Instruction 4320.01, *Equipment Authorizations for Theater Special Operations Commands.* This document not only provided policy and guidance for authorizing equipment for the theater special operations commands; it also assigned executive agent responsibility. The Army received responsibility for theater special operations commands in Korea, Southern Command, and Europe. In March 1998, Special Operations Command, Korea, became the first theater special operations command to receive warfighting equipment authorizations when the director of force programs approved its joint table of allowances.

Military Intelligence

In FY 1998, an "Intel XXI" study team developed for the Army recommendations that dealt with doctrine, training and education, leader development, organizations, materiel, and soldier systems. The study team recommended that the intelligence community initiate more than 160 tasks

between the end of FY 1998 and the year 2010 in an effort to shape military intelligence to meet the changing needs of the Army. The initial Intel XXI focus was on the twenty-first–century threat, which will include the conventional (or symmetric) threat posed by enemy armed forces as well as asymmetric threats outside the scope of direct military action (for example, sabotage and terrorism). These threats may be synchronous (immediate) or asynchronous (taking effect well after their initiation, as in the case of mine warfare). Equipped with a perspective on the threat, the study team designed ways to meet the information requirements specified by the Army's principal futurist agency, the Training and Doctrine Center (TRADOC). The team focused on the information and intelligence requirements of Force XXI, Strike Force, and the AAN.

A separate review of foreign language management and resources within the Army identified the lack of a single proponent for foreign language issues. Examination of the applicable regulations identified the Office of the Deputy Chief of Staff for Intelligence (ODCSINT) as the proponent for foreign languages within the Army. The Army Foreign Language Proponency Office (AFLPO) was established within the ODCSINT on 23 March 1998 to serve as the proponent for all soldiers who require foreign language skills. Under the charter developed by the AFLPO and coordinated within the Army staff and the major commands, a process was developed to resolve problems relating to provision and application of foreign language skills. The process involves a series of meetings, beginning with the Army Language Committee, progressing through a Foreign Language Council of Colonels, then to a Foreign Language General Officer Steering Committee. The charter specifies the organizations represented in these meetings.

In the field of Army counterintelligence, a counterintelligence project under the project manager for intelligence fusion in FY 1998 mapped a future for tactical counterintelligence inside the Army's All-Source Analysis System (ASAS). The ASAS serves as the Army's premier battlefield operating system for military intelligence. In the tactical community, counterintelligence has provided useful intelligence to decision makers. New analysis systems, such as CHATS (the Counterintelligence and Human Intelligence Automated Tool Set), the first version of which was fielded late in FY 1998, have been one of the key contributors to this high level of success. At echelons above corps, Army counterintelligence has been revolutionizing business practices and establishing common DOD automation standards through the introduction of the Defense Counterintelligence Information Systems.

In an effort to control the cost of personnel security investigations, the Quadrennial Defense Review recommended that DOD requesters be required to pay for the investigations conducted. The DOD Comptroller's Program Budget Decision 434 of November 1997 directed that customer agencies pay for personnel security investigations conducted by the Defense Security

Service on military or civilian members of the department. The decision devolved funds from the Defense Security Service to the DOD components, including the Army, to offset the transfer of responsibility. The Defense Security Service retained responsibility and funding for payment of those personnel security investigations conducted on defense contractors under the National Industrial Security Program. As FY 1998 closed, discussions started on the feasibility of converting the remaining Defense Security Service functions to a fee-for-service program.

The ODCSINT assumed responsibility for the Army Foreign Liaison Officer (FLO) Program in FY 1997. Since then, a program review has been under way with the goal of bringing the training, certification, and employment of FLOs into compliance with statutory and regulatory guidelines. The FLO Program's purpose is to protect U.S. technological advantages, identify and designate key technology programs and processes the United States wishes to obtain from foreign countries, position FLOs to improve the effectiveness of coalitions between the United States and other nations, and support the U.S. National Security Strategy's goal of engagement with emerging nations and enlargement of existing alliances. During the FLO Program Review, the emphasis has not been to change current policy but rather to implement a new process that would enforce existing policy and clarify required administrative procedures. An agreement between the ODCSINT and the deputy undersecretary of the Army for international affairs created an Army council of colonels for international disclosure policy on 29 April 1998. The council's purpose is to further the common interests of all participants in achieving the Army's current and future international and intelligence objectives. Army Regulations 380-10, *Technology Transfer, Disclosure of Information and Contacts with Foreign Representatives* (30 December 1994), and 34-1, *International Military Rationalization, Standardization, and Interoperability* (15 February 1989), which govern foreign disclosure, foreign liaison officers, and multinational force compatibility, serve as the council's primary reference documents. The mission of the council is to assist the Army staff and secretariat in executing a political and military strategy maximizing the benefits for the U.S. Army and allies, while preserving the security of sensitive information and technology.

The Intelligence Community Assignment Program continued in FY 1998, providing opportunities for developmental rotations throughout the intelligence community for career civil servants in grades GS-13 and above. Beginning in FY 2002, employees who aspire to senior executive positions in the intelligence community will be required to achieve designation as intelligence community officers. Additionally, policy was clarified, explicitly permitting Civilian Intelligence Personnel Management System (CIPMS) employees to participate in the Defense Leadership and Management Program (DLAMP) but restricting CIPMS positions from being designated as DLAMP key positions.

Nuclear, Biological, and Chemical Issues

The Defense Against Weapons of Mass Destruction Act of 1996 mandated the enhancement of domestic preparedness and response capability for terrorist attacks involving nuclear, radiological, biological, and chemical weapons, or other weapons of mass destruction (WMD). The legislation funded improvements in the ability of the federal, state, and local emergency agencies to prevent or, failing prevention, to respond to domestic terrorist incidents involving WMD. The DOD has the lead in developing the Emergency Response Assistance Program as part of a federal interagency effort. The secretary of defense has designated the secretary of the Army as the executive agent for DOD program implementation. The Army director of military support, overseen by the assistant secretary of the Army for installations, logistics, and environment, acts as the staff action agent. The assistant secretary of defense for special operations and low intensity conflict makes policy and administers funding for the DOD Domestic Preparedness Program. As a result of a 3 October 1997 Defense Review Board meeting, the deputy secretary of defense asked the assistant secretary of defense for special operations and low intensity conflict, the assistant secretary of defense for reserve affairs, and the assistant secretary of the Army for installations, logistics, and environment to provide an assessment for integrating the RC into ongoing WMD domestic preparedness programs funded by the Defense Against Weapons of Mass Destruction Act.

On 3 November 1997, the deputy secretary of defense directed that the undersecretary of defense for personnel and readiness (USD [P&R]) oversee the development of a plan to integrate the RC into the planned DOD response to attacks using WMD. At the direction of the USD (P&R), a core group of experts—a "Tiger Team"—was formed to complete the plan. In a 14 November 1997 memorandum, the undersecretary of defense placed the undersecretary of the Army in charge of the plan's development. The undersecretary of the Army directed the Tiger Team to incorporate the capabilities of the RC into the plan. The Tiger Team focused on the provision of appropriate, substantive, and integrated DOD support to government authorities responding to a WMD attack as the basis for the plan. The team reviewed existing programs, applied scenario-driven analysis, and sought the opinions of other experts in the emergency preparedness field. The Tiger Team used the existing Interagency Strategic Plan and Federal Response Plan and recognized existing statutory restrictions and training limitations in producing its analysis. The resulting DOD plan for "Integrating National Guard and Reserve Component Support for Response to Attacks Using Weapons of Mass Destruction" was published on 6 January 1998. The plan set forth an evolutionary process to fill gaps in existing capabilities for responding to WMD attacks, incorporating the capabilities of RC forces,

such as chemical and medical units. Although disaster relief is primarily a state mission, given the nature of a WMD attack, the plan recognized that the DOD could anticipate requests for federal assets much earlier than during more typical disasters.

Assessing the DOD's capabilities, the Tiger Team concluded that the department was insufficiently prepared to perform tasks that other federal agencies might be likely to request. In addition, the civilian emergency response community lacked the ability to assess the nature and scope of WMD attacks. The team determined that it was necessary to create Military Support Detachments (Rapid Assessment and Initial Detection [RAID]) to provide a DOD capability to respond to domestic WMD attacks. RAID teams would assist with identifying chemical, biological, and radiological agents and mitigating hazards in affected areas, and then would identify the areas requiring evacuation as opposed to areas where it would be safer for the affected population to remain in place. In addition to establishing RAID detachments, the plan called for equipping the chemical companies and platoons in the RC with state-of-the-art civilian and military equipment. These organizations would then train in civilian hazardous material procedures in addition to their military missions of nuclear, chemical, and biological reconnaissance and patient decontamination. The Tiger Team plan also called for an analysis of the preparedness of the medical community as a whole to deal with a WMD incident, with the intent of enabling the RC to help resolve unmet needs for medical treatment and support. In addition, the plan recommended developing distance-learning programs for military response elements, as well as for local first responders, and conducting interagency exercises to test response capabilities and develop better response mechanisms. The Tiger Team also suggested changes in policies and laws to better facilitate the RC response. These included a review and update of various DOD directives concerning continuity of operation, military support to civil authorities, and protection of key assets.

On 17 March 1998, the secretary of defense announced the WMD Consequence Management Program and directed the establishment of the Consequence Management Program Integration Office (COMPIO) in the Army Directorate of Military Support. The COMPIO was tasked with evaluating the current capabilities of the DOD's WMD-response elements. The office was also made responsible for coordinating the development of doctrine and training for response to WMD attacks. In addition, the COMPIO was to supervise the coordinated development of exercises with local, state, and federal response elements. Although functioning within the Army staff, the COMPIO is a DOD office, staffed with both Army and Air Force personnel, designed to enhance the capabilities of first responders and to identify, train, and equip functionally focused military response elements ranging in size from five to sixty people. The mission of these elements is to

support local, state, and federal responses to WMD attacks. These response elements could be employed in federal status as part of a federal response task force. Governors could also employ National Guard elements as part of a state response.

The Army in Space

Army space support teams provide rapid-response multispectral imagery (space imagery involving and integrating multiple bands of the electromagnetic spectrum), weather information, mission planning rehearsals, and commercial satellite communications in support of deployed military forces. These teams deployed thirteen times in FY 1998 to support training and operational missions of unified commands, providing greater global positioning accuracy, satellite weather data, and space-based intelligence analysis.

The Army has recently begun conducting operations to improve its use of space. AAN Space Game One, held in June 1997 at the Space and Missile Defense Command's (SMDC's) Advanced Research Center in Huntsville, Alabama, focused on moves the United States could make in space before the outbreak of hostilities. The key finding from Space Game One was that deterrence from space, by itself, was insufficient without other actions, including diplomacy and economic sanctions. After the first game, the Army saw the need to get a more detailed picture of how its forces would employ space-based resources to fight in the future. The SMDC co-hosted AAN Space Game Two with the National Reconnaissance Office and the TRADOC in Colorado Springs, Colorado, from 28 January to 5 February 1998. In the game, the Army studied the effects of projected space-based capabilities in 2021 in a major regional contingency. Building on the experience of Space Game One, Space Game Two looked at how space operations would fit into a cohesive theater campaign that established "mission assurance," the ability to maintain an expected level of force capabilities, including space-based services. Specifically, the game examined how space warfighting concepts and technologies could be synchronized with theater campaign plans, identified the operational and organizational issues in integrating space support into a warfighting commander-in-chief's staff, and determined the constraints on space-based capabilities that adversely affect theater operations. Looking forward to the environment of 2021, Space Game Two also considered the policies that would ensure effective space operations and examined the impact on warfare of the proliferation of commercial space activities. The game also explored a U.S. space order of battle to address multiple possibilities in 2021 and continued to identify the asymmetric threats that the United States should expect from a major competitor. Preliminary observations drawn from the game suggested that the Army had acquired

a better understanding of the timelines for terrestrial and space activities and how to synchronize them. Game results also indicated that the Army has achieved a better understanding of the role of space support in military operations, particularly the relationship of military and commercial space activities, and that the Army has learned how space systems and nonspace systems, such as satellites and unmanned air vehicles, can complement each other.

5

Reserve Forces

Force Structure

The active Army provides the bulk of Army forces at the outset of contingencies, but completion of any substantial mission requires the additional forces of the reserve component (RC): the Army National Guard (ARNG), which included more than half of the Army's total force structure, and the U.S. Army Reserve (USAR). In FY 1998, the ARNG made up 34 percent of the Army's total force structure and served as a strategic reserve. The Guard provided 55 percent of the Army's combat units with its eight divisions, fifteen enhanced separate brigades (eSBs), three other separate brigades, and two special forces groups. The ARNG supplied 46 percent of the Army's combat support, 25 percent of its combat service support, 63 percent of its field artillery, and 46 percent of the service's air defense artillery. The nearly twenty-four hundred units of the USAR represented 20 percent of the Army force structure. Army Reserve units provided 20 percent of the Army's combat support, 47 percent of the service's combat service support, and 98 percent of its civil affairs and psychological operations force.

In FY 1998, the RC faced a major challenge in managing its resources to fulfill Army force structure requirements. The ARNG developed the state objective force structure-redesign process to manage force structure requirements and changes across the fifty states, plus the District of Columbia, Guam, Puerto Rico, and the Virgin Islands. Using this process in conjunction with Total Army Analysis, all National Guards would be programmed to their optimal end strengths while they maintained the structure required to support the National Military Strategy and domestic requirements. The USAR's main concern was its inability to meet force structure requirements with limited end strength. In FY 1998, the Army Reserve achieved its Selected Reserve end-strength target. This achievement required extensive coordination between the Army Reserve and the Army's personnel-related commands.

In keeping with the total force concept, the trend toward increasing integration of the active (AC) and reserve components continued in FY 1998. The teaming concept partners AC divisions with ARNG divisions. The initial test of this concept involves two teams: the 1st Cavalry Division, stationed at

Fort Hood, Texas, teamed with the 49th Armored Division, Texas ARNG; the 4th Infantry Division (Mechanized), also stationed at Fort Hood, teamed with the 40th Infantry Division (Mechanized), California ARNG. The partnership of the teamed divisions would be based on training and support, with each division relying on its partner to assist in common missions. In addition to the teamed divisions, the Army plans to form integrated AC–RC divisions, scheduled for activation in the first quarter of FY 2000. An AC–ARNG integrated division would consist of three eSBs under an AC headquarters overseeing the brigades' training and readiness. The integrated division program encompasses the activation of one heavy and one light division (numerical designations to be determined). The 30th, 48th, and 218th eSBs, all mechanized infantry brigades, are scheduled to become part of a heavy division headquartered at Fort Riley, Kansas, with a forward headquarters at Fort Jackson, South Carolina. The 39th, 41st, and 45th eSBs would make up a light division with headquarters at Fort Carson, Colorado. More generally, for the first time the Division XXI redesign specified organic RC positions in active heavy divisions. Reorganization was under way in the Program Objective Memorandum for FYs 1998–2003. The Army programmed $743 million for realignment and reorganization, with $83 million for the active component, $468 million for the ARNG, $192 million for the USAR, and an extra $200 million in FY 1998 for division redesign.

Funding

Of the total Army funding in FY 1998, the ARNG accounted for about 9 percent and the USAR accounted for 5 percent. The reserve component experienced some funding shortfalls for operation and maintenance (O&M), construction, depot maintenance, and major equipment in FY 1998. The ARNG could not fund O&M requirements totaling $455 million in FY 1998 and estimated the O&M funding shortfall for FY 1999 to be $450 million. Shortages existed for schools and special training, clothing, depot maintenance, readiness accounts, environmental requirements, information management, and training support. Many ARNG units, including those designated for early deployment, did not have the necessary resources to maintain readiness levels. Two-thirds of the ARNG force structure was designated as a strategic reserve and was allotted resources at levels that permitted only individual or squad-level proficiency training. Some ARNG officials felt that the mobilization period might not allow adequate time to achieve unit proficiency. Given the uncertain amount of time a later-deploying unit would have to increase its readiness during the mobilization period, the Army leadership decided that additional resources should be made available to train to platoon-level or higher tasks. The lowest-priority group of units, Force Package 4, was allotted only 13 percent of the funds needed to achieve

unit-level readiness. Reduced funding curtailed tank gunnery and maneuver training. The readiness of seven of the eight ARNG divisions declined during FY 1998 because of significant funding shortfalls for readiness training.

In FY 1998, USAR operation and maintenance programs were underfunded by more than $509 million. Shortages existed in civilian pay, real property maintenance, information management, base communications, operational tempo, and depot maintenance. Whereas Tier 1 units were funded at 100 percent, Tier 2 units were funded at only 50 percent, and Tiers 3 to 5 were unfunded. In the personnel account, schools and special training were underfunded. Because of the shortage of school training funds in the USAR accounts, annual training funds were spent to send individual soldiers to school rather than to provide unit annual training. Although this schooling enhanced individual professional development, it did so to the detriment of unit collective training. O&M funds for the USAR in FY 1998 were insufficient to support adequately the National Military Strategy of conducting two nearly simultaneous major theater wars. A shortfall existed for some later-deploying and support units. The Army recognized this shortfall in the planning, programming, and budgeting system process and applied a funding strategy that provides resources on a "first-to-fight" basis. As a result, the USAR has increased its training, readiness, and ability to meet its critical wartime requirements.

Strength and Personnel Management

Authorized end strength for the reserve component in FY 1998 was 570,000. The ARNG sought to achieve an FY98 end-strength objective with a Selected Reserve strength of 362,000, comprising 40,291 commissioned and warrant officers and 321,709 enlisted personnel. To attain this goal, the ARNG programmed its enlisted gains at 56,638, officer gains at 3,682, and enlisted extensions at 45,318; enlisted losses were not to exceed 64,219. The fiscal year ended with ARNG strength at 362,459 (100.1 percent of its end-strength objective). Total strength included 39,307 officers and 323,152 enlisted personnel. The USAR sought an end strength for FY 1998 of 208,000 and achieved an end strength of 204,968 (a fill rate of 98.5 percent). Although the USAR came close to meeting its end-strength objective, it fell short of its accession goals.

Women continued to play an important role in the reserve component in FY 1998. In the ARNG, women make up almost one tenth of the force. Significantly, women are serving in higher-ranking positions; for example, the ARNG recently gained its first female major general. In August 1998, the Army National Guard Women's Advisory Committee was formed to serve as an ARNG voice for the Defense Department Advisory Committee on Women in the Services and to address issues affecting women. In FY 1998,

the reserve component took additional steps to reduce the number of sexual harassment incidents. The ARNG introduced the Army's Consideration of Others Program, which promotes professional behavior, whether on- or off-duty, by focusing on the Army's core values. The USAR Selected Reserve force was 20.8 percent female. For the past four years, 98 percent of the career fields in the Army Reserve have been open to women. The recruiting rate for non–prior-service females in the USAR was 36.0 percent in FY 1998, down slightly from 37.9 percent in FY 1997.

The ARNG completed its transition to a new promotion system using the Select-Train-Promote methodology. This system set statewide promotion standards, with one board per grade per year. It enabled soldiers to enroll in Noncommissioned Officer Education System courses immediately upon selection and provided soldiers ranked as best qualified in their military occupational specialties (MOSs) for assignment to higher-graded positions as they became available. Soldiers were responsible for reviewing their administrative qualifications to ensure the currency of their personnel records and for electing or declining consideration for promotion. Those who elected consideration also were required to choose from a range of options concerning where they would accept assignment and promotion within the state.

The U.S. Army Reserve Personnel Center in St. Louis, Missouri, became the U.S. Army Reserve Personnel Command (AR-PERSCOM) (Provisional) on 16 October 1997. On 1 October 1998, the AR-PERSCOM ceased to be a provisional command, attaining permanent status. The formation of the AR-PERSCOM resulted from a study by an Army Reserve Council of Colonels. This group, convened in 1994 to assess how the functions and structure of the Army Reserve fit into the Army Force XXI modernization plan, determined that Army Reserve policy functions, personnel management, and service could be streamlined. The group recommended consolidation of these functions into one command, the new Army Reserve Personnel Command. The AR-PERSCOM provided a single focal point for supporting Army Reserve personnel management in both peacetime and mobilization environments. It also improved the interoperability for mobilization support between the Total Army Personnel Command and the Army Reserve. The AR-PERSCOM implemented business process initiatives to enhance personnel readiness for USAR soldiers. These initiatives included accelerated automation standardization, realignment of organizational responsibility (especially for career management and personnel actions), and adoption of a personnel management organization more consistent with the active component's Department of the Army PERSCOM.

The Individual Ready Reserve Activation Authority (IRRAA), based on lessons learned from the Gulf War, is designed to help ensure the timely

availability of certain trained and qualified members of the Individual Ready Reserve to fill selected shortfalls in early-mobilizing or -deploying AC and RC units. During Operations DESERT SHIELD and DESERT STORM, later-deploying units were activated to provide personnel to fill earlier-deploying units. This procedure, however, compromised the cohesion and readiness of those later-deploying units. To prevent this development in future mobilizations, the Army proposed what became Section 511 of the FY98 National Defense Authorization Act, which established the IRRAA. Section 511 amended Section 10144 of Title 10, U.S. Code, to create a new category of Individual Ready Reserve members subject to involuntary call to active duty under a Presidential Selected Reserve Call-up (PSRC). Additionally, Section 511 amended Section 12304 of Title 10 to authorize the president to call as many as thirty thousand members of this new Individual Ready Reserve category from all services, with no set limit to the number of qualified individuals who could volunteer. Reservists subject to the IRRAA are volunteers from all services who agree to be involuntarily called up during a PSRC. Candidates for IRRAA status must have a remaining service obligation, must be within twenty-four months of honorable separation from their last active or reserve service, must have trained within the last twenty-four months, and must be physically fit and MOS-qualified. IRRAA members are not required to attend drills or annual training, but they have priority for available refresher training and training opportunities with units that need their skills.

The Army Reserve prepared for the implementation of the Army's new officer evaluation reporting system, which was scheduled to take effect on 1 October 1998. This preparation included policy revisions, chain teaching, and hardware and software upgrades to ensure a smooth transition to the new system. The USAR also completed phase I of the transition to Officer Personnel Management System XXI, including extensive impact studies, personnel analyses, career model development, briefings, and continual coordination with the active Army.

Training

In August 1998, the Army National Guard conducted the second battle-focused training exercise at the ARNG Training and Training Technology Battle Lab at Fort Dix, New Jersey. The Fort Dix facility employed available resources to train lower-priority units by providing a stressful, realistic experience using live, virtual, and constructive (that is, having iconic or symbolic representations in place of actual forces, as in table-top games) training environments with aggressive opposing forces and observer controllers. The first two exercises trained mechanized maneuver battalions in a scenario-based operation with maximum attention to multi-

echelon and individualized training. Intensive planning began for the FY99 exercise, which was expected to focus on an artillery battalion as part of a division staff exercise.

Continued development and fielding of simulators has led to the expanded use of this technology throughout the ARNG. By the close of FY 1998, the ARNG had fielded more than 60 twelve-lane and 75 four-lane Engagement Skill Trainers with enhanced crew-served simulation weapons mix; 140 Armor Full-Crew Interactive Simulation Trainers; 40 Janus staff/maneuver trainers; and 150 Guard Unit Armory Device Full-Crew Interactive Simulation Trainer-IIs (GUARDFIST-IIs) forward observer one-to-one trainers. Other simulators fielded in FY 1998 included seven GUARDFIST-IIA forward observer one-to-thirty trainers; and 265 Digital Systems Test and Training Simulators for field artillery units. This fielding more than doubled the FY97 fielding of these critical devices, thereby significantly enhancing ARNG training capabilities. The Guard also continued to increase the use of its first two sets of the mobile close combat tactical trainer (one each for Abrams tanks and Bradley fighting vehicles) by units throughout the southeastern United States.

STEP, the SIMITAR (Simulation in Training for Advanced Readiness) Training Exportable Program, is derived from SIMITAR, a five-year joint experimental program of the ARNG and the Defense Advanced Research Projects Agency intended to change the way ARNG maneuver brigades train through the development of advanced simulation techniques. Under SIMITAR, technologies such as interactive simulations have been combined with new training strategies to train Guard members in more skills within a fixed amount of time. The program was designed to meet observed deficiencies in battle synchronization, collective training, combat service support integration, and individual skill attainment. Applied through STEP, SIMITAR is intended to increase Army National Guard training readiness two or three times, compared with that in the 1991 DESERT SHIELD mobilization. The program also has the goal of developing and integrating affordable technologies—where possible, existing commercial ones—that would enable ARNG units and soldiers to conduct realistic and sophisticated training in their local communities. During FY 1998, ARNG heavy brigades used STEP to enhance training at the National Training Center.

In FY 1998, the ARNG began developing an Aviation Reconfigurable Manned Simulator (ARMS) as a cost-effective way to enhance flying safety and readiness. The ARMS is a cooperative effort of the U.S. Army Aviation Center and the Army's Simulation, Training, and Instrumentation Command. The device provides a 360-degree virtual environment by means of a helmet-mounted display system, cockpit housing, realistic controls, and interactive cockpit panels. Each simulator provides training

in individual and crew tasks; focuses on collective, combined-arms, and joint-service operations; and can be quickly reconfigured to each of the helicopters flown in the ARNG.

The ARNG fiberoptic communications architecture linked 639 classrooms in the Guard program, with the goal of providing a distance-learning classroom within sixty minutes' travel time of every soldier. The Army Distance Learning Program incorporated 132 ARNG-installed classrooms to support the Army school system's training of guardsmen. In the Army Reserve the goal was to provide distance-learning capability at every Army Reserve Center or training location. In April 1998, the ARNG Distributed Training Technology Plan was presented the *Computerworld*/ Smithsonian award as a program whose visionary use of information technology produced positive social, economic, and educational change. In conjunction with Fort Knox, the ARNG successfully piloted a Web-based offering of portions of the advanced armor officers' course in FY 1998.

The USAR also continued to develop, integrate, and improve automation systems for training in FY 1998. The Battle-Focused Training Management System was fielded to facilitate training management at company, battalion, and brigade levels. The application assisted in developing the unit mission statement and the mission essential task list. The system was also upgraded to work with the Center Level Application System to collect and transmit the training assessment model through the chain of command. These actions were interim steps leading to the Reserve Level Automation System (RLAS), which represented the USAR's business applications for the Reserve Component Automation System. The RLAS was intended to use the power of local- and wide-area networks to bring current information to decision makers; a beta version was being tested at the end of FY 1998.

Army reservists honed their combat support and combat service support skills in more than thirty major exercises during FY 1998. Exercise RIO BRAVO, which involved USAR chemical unit support to a variety of headquarters and maneuver units, was particularly noteworthy in that it was the largest chemical training exercise since World War II. Designed to evaluate the ability of USAR installations to accomplish their mobilization missions during a simulated mobilization surge, Exercise CALL FORWARD was conducted at four installations: Fort Bragg, California; Fort Polk, Louisiana; Fort Sill, Oklahoma; and Fort Buchanan, Puerto Rico. Thirteen USAR units, with 848 soldiers, participated in CALL FORWARD. Exercise POSITIVE FORCE was a Joint Chiefs of Staff (JCS)-sponsored worldwide command post exercise designed to assess national capabilities to conduct mobilization and deployment operations in support of two regional contingencies. POSITIVE FORCE used the PSRC and partial mobilization decision process, with eighty-seven Army Reserve units participating.

Readiness

The 1995 Base Realignment and Closure (BRAC) Commission recommended relinquishing four major active-Army installations to the ARNG. In FY 1998, minimum essential training facilities at Fort Pickett (Virginia), Fort Chaffee (Arkansas), and Fort Indiantown Gap (Pennsylvania) were transferred to their respective state National Guards. These installations operate as ARNG training centers, each capable of supporting brigade-level operations, including most necessary maneuver areas and live-fire ranges. At the end of FY 1998, final planning and coordination was in process to transfer the minimum essential training facilities of Fort McClellan, Alabama, to the Alabama ARNG in FY 1999.

The BRAC process has had limited direct impact on USAR readiness. To date, its major impact has been on long-range planning for major construction. Many Army Reserve facilities are more than thirty years old and thus are approaching the point where they would be cheaper to replace than maintain. The goal of the USAR has been to obtain, through BRAC, sufficient newer buildings to replace old or leased ones, but the BRAC process has not provided good-quality buildings so far.

The Army National Guard manages overall readiness by giving priority for resources to units that are designated "first to deploy." This method ensures that high-priority units receive necessary resources to meet operational readiness requirements. Critical units, such as those in the Force Support Packages (FSPs) and the eSBs, have benefited significantly from this tiered allocation of resources, whereas lower-priority units, such as the eight ARNG divisions, have struggled to maintain acceptable readiness levels under existing fiscal constraints. During FY 1998, unit status reports indicated that overall unit readiness levels declined by 5 percent. Contributors to this decline included decreased training levels and equipment serviceability, as well as more personnel not qualified in their duty MOSs. However, this same period witnessed a slight increase in senior-grade personnel with duty MOS-qualified status and in equipment-on-hand levels. Also, the number of soldiers not deployable because of a lack of duty qualification has decreased by approximately two thousand since FY 1997, primarily because soldiers have received appropriate MOS training.

The 218 ARNG units designated in the FSPs were the highest-priority units for the Army National Guard. Combat support and combat service support units make up the vast majority of the Guard's FSP roster. These units were doctrinally aligned to support two nearly simultaneous major theater wars. They featured one full and one partial corps headquarters, one theater slice of higher echelon units sufficient to support a corps, and the support elements necessary to open one theater. There were two FSPs: FSP 1 supported four and one-third divisions, one full corps headquarters, and one

theater slice; FSP 2 supported the remaining crisis response forces. During FY 1998, unit status reports indicated a 4 percent increase in overall FSP readiness.

The fifteen ARNG enhanced separate brigades are the Army's principal reserve ground combat maneuver forces and are fully integrated into the scenario of two major theater wars. The eSBs are expected to meet established ARNG readiness goals by the end of FY 1999. Additionally, all of the eSBs have achieved the Army Mobilization and Operations Planning and Execution System deployment standards. Funding was a major concern for the eight ARNG divisions. During FY 1998, training readiness within the ARNG divisions declined because of insufficient operating tempo (funded annual vehicle mileage or flight hours) and execution funding. As a result, premobilization training levels and the overall readiness of these units dramatically decreased. FY98 data indicated that overall unit resources and training levels in the divisions declined 15 percent as a result of decreases in duty MOS-qualified status, equipment serviceability, and training readiness.

The use of ARNG units in support of Operations JOINT GUARD and JOINT FORGE had a positive effect on both unit readiness and soldier retention. Negative effects on employers and families appeared to be limited. The ARNG has lessened the call-up impact by establishing the Employer Support of the Guard and Reserve Program. Under this program, the Guard has established policies for rotating mobilized units from one contingency operation to the next and for using volunteers first in mobilizing for contingencies. The ARNG has also worked to coordinate call-ups to allow as much advance time as possible to lessen personnel turbulence for employers.

A USAR survey of soldiers returning from Bosnia indicated that approximately 52 percent would volunteer for future mobilizations; 35 percent said they were unlikely or very unlikely to volunteer. Almost 70 percent stated that they would not complain if called for future mobilizations. More than 66 percent of those surveyed stated that the maximum period of activation should not exceed 180 days. However, of physicians mobilized for Bosnia-related operations, 34 percent have since left the Selected Reserve. Other mobilized physicians have indicated they now remain in the Selected Reserve only because time remains on their service contracts.

Mobilization

Army National Guard and Army Reserve soldiers participated in a number of contingency operations during FY 1998. The ARNG mobilized 2,227 soldiers from ninety-six units and forty states under PSRC authority in support of Operations JOINT ENDEAVOR, JOINT GUARD, and JOINT FORGE in Europe as well as Operation SOUTHERN WATCH in Kuwait. The types of

units (and the number of soldiers mobilized) were the following: 5 adjutant general detachments (262), 17 aviation command-and-control elements (528), 4 combat support and logistics units (62), 4 engineer elements (88), 6 field artillery fire support elements (124), 8 finance detachments (136), 1 infantry company (129), 2 medical units (70), 1 military history detachment (3), 1 military police company (125), 1 movement control detachment (8), 16 public affairs detachments (133), 2 signal elements (44), 2 special forces command-and-control elements (14), 6 target acquisition batteries (247), 1 transportation company (153), as well as 20 other Table of Distribution and Allowances support elements (101).

In Operations JOINT ENDEAVOR and JOINT GUARD, the RC was required to bring the readiness of deploying units to specific levels. Inactive duty training and annual training funds already programmed for those units were used, but additional resources were needed because additional expenses were incurred as equipment was redistributed among Guard units and states. Additional personnel were also needed to help mobilize the units. To accomplish the mobilization, lower-priority units gave up resources, with an undetermined impact on those units. The USAR paid soldiers mobilized for contingency operations from the military personnel appropriation. The USAR has traditionally supported contingency operations using PSRC procedures instead of volunteerism and temporary tours of active duty. Like other portions of the Department of Defense (DOD) reserve component, the USAR does not plan or budget for contingency operations but relies on Congress to provide funds. Contingency operations that are not fully funded create requirements that end up being funded out of the operation and maintenance accounts.

In addition to deployments under PSRC authority, ARNG soldiers on temporary tours of active duty supported peacekeeping operations in Eastern Europe (Operations JOINT ENDEAVOR, JOINT GUARD, and JOINT FORGE), in the Middle East (Operation SOUTHERN WATCH), and in Macedonia (Task Force ABLE SENTRY). A total of 2,292 ARNG personnel deployed in support of those missions during FY 1998. Every ARNG division provided units to Operation JOINT GUARD. Many provided critical skills, notably infantry, as well as target acquisition, forward observation, and weather services for field artillery units. In addition to these European deployments, nineteen hundred Army National Guard soldiers deployed throughout the Pacific region in FY 1998 to relieve shortages that had led to excessive personnel tempo and operating tempo in a variety of AC combat, combat support, and combat service support units. The ARNG soldiers included military intelligence and engineer specialists and those with expertise in maintenance of the war equipment stocks positioned in Korea and Japan. Since the beginning of Operation JOINT FORGE on 20 June 1998, almost twelve thousand USAR soldiers have been mobilized under the PSRC. Some 286 Army reservists were mobilized for Southwest Asia. One hundred ninety-two soldiers mobilized from the 310th Chemical Company

(Biological Integrated Detection System) and the rest from two detachments of the 321st Material Management Center for the initial efforts of Operation SOUTHERN WATCH in March 1998.

During FY 1998, the Army National Guard provided approximately six million workdays to support the AC. Approximately ninety-four hundred ARNG soldiers deployed to Europe for training and operational mission support. V Corps depends on RC units to participate as key players in most of its exercises. Guard units participated in the V Corps warfighter command post exercises and Combat Maneuver Training Center (CMTC) rotations. For Seventh Army Training Command, which operated the CMTC at Hohenfels, Germany, ARNG units deployed for opposing-force, maintenance, battle staff training, military police, and engineer missions at the CMTC and at Grafenwoehr, Germany, site of an administration and logistics support base. In the Southern European Task Force, the U.S. Army component of the Allied Forces Southern Region, located in Vicenza, Italy, Army Guard units participated in JCS-directed exercises, and performed maintenance, military police, communications, and engineer missions.

The Army Reserve contributed more than 2.2 million workdays to AC missions during FY 1998. Approximately 48 percent of annual training and 34 percent of active duty for training were dedicated to support of the AC. This total included 245,000 workdays of Intelligence Contributory Support to commanders in chief, combat support agencies, and Army Service Component Commands worldwide. Support included signal intelligence, human intelligence, imagery intelligence, all-source intelligence, and counterintelligence. All missions were conducted under inactive duty training, annual training, and active duty training status. Under the PSRC that began in December 1995 and continued through FY 1998, the Army Reserve provided units and individual augmentees to the U.S. efforts in Bosnia and Herzegovina, Croatia, and Hungary and to the backfill of units in Europe. The USAR has provided more than eleven thousand soldiers in some 437 units to support Operations JOINT ENDEAVOR, JOINT GUARD, and JOINT FORGE. The Army Reserve also participated in the overseas deployment training programs, counterdrug operations at home and abroad, engineering and maintenance missions in Southwest Asia, and medical and engineering assistance in South America. Almost four thousand Army reservists provided deployment and redeployment support for two AC rotations to the National Training Center. More than five thousand Army reservists from more than fifty units provided combat support and combat service support to units at the Joint Readiness Training Center.

Reserve Component Support to Civil Authorities

Military support to civil authorities has been the Army National Guard's most common peacetime function. As local, state, and federal budgets for

specialized disaster response decreased, the Guard was more necessary than ever in responding to natural disasters, civil disturbances, and other emergencies. Most important, the ARNG was ready and available in case of emergency, saving the expense and manpower required for a comparable full-time force. In FY 1998, the Guard conducted 308 emergency response missions in forty-nine states and territories. Of these call-ups, 172 were in response to natural disasters, 23 were in response to civil emergencies, 31 were in support of law enforcement agencies, and 82 were for other types of missions. The ARNG used 374,115 man-days in these domestic support missions, primarily in state active-duty status. Although the number of missions remained constant, they made greater demands: In FY 1998, there was an increase of 93,561 man-days over those of the previous fiscal year. The most significant domestic support operations were in response to Hurricanes Bonnie (North Carolina) and Georges (Florida, Georgia, Louisiana, Mississippi, Puerto Rico, and Virgin Islands). Floods, winter storms, and wildfires also consumed a large number of man-days.

In addition, more than ninety-five hundred Army National Guard soldiers from thirty states completed 164 medical, engineer, and other support projects under the Innovative Readiness Training (IRT) Program in FY 1998. Eight hundred ARNG engineers assisted the West Virginia Airport Authority by improving the Benedum Airport infrastructure, mainly through road construction and excavation. The Guard provided an exercise headquarters and engineer assets, Task Force GRIZZLY ROAD BUILDER, to construct barriers and access roads to interdict the flow of illegal drugs into the United States. Fifteen engineer battalions built roads and fences along the California–Mexico border, between the Otay Mountains and the Pacific Coast. Exercise REEFEX used decommissioned army vehicles to create artificial reefs in the Atlantic Ocean. New Jersey and South Carolina ARNG members received the equipment, stripped the components, removed fuels and lubricants to meet Environmental Protection Agency standards, and helped position the equipment correctly. In Operation ALASKA ROAD, Army National Guard and Marine Reserve Forces built about half of a fourteen-mile road within the Metlakatla Indian Community, near Annette Island, Alaska. The guardsmen and marines were ferried to the work site on USAR watercraft. When the road is completed, the citizens of Metlakatla will have access to a proposed ferry terminal site and improved access to the city of Ketchikan. For FY 1999, at least twenty-three states have submitted ninety-three IRT project proposals (for a total proposed budget amount of $8.5 million).

During FY 1998 Army Reserve forces also assisted civil authorities responding to disasters. Notable examples included responses after Typhoon Paka on Guam; ice storms in the northeastern United States; a major snowstorm in Marion, Virginia, in early 1998; a tornado in Washington,

Iowa, in May; droughts in Texas; severe storms in Fort Scott, Kansas; and floods and wildfires across the southern United States in the summer of 1998. In the aftermath of Hurricanes Bonnie, Danielle, and Georges, the USAR quickly responded with forklifts and operators, as well as with M915 tractors with trailers and drivers. Army Reserve emergency preparedness liaison officers served in three Federal Emergency Management Agency regions, in seven state emergency operations centers, and in Puerto Rico, providing around-the-clock coordination of relief efforts.

Army Reserve units also conducted a variety of less urgent community assistance projects authorized when the projects were within unit capabilities and could provide direct training in mission-related skills. In FY 1998, Army reservists began road construction at a 38-acre fish and wildlife area in Allamakee County, Iowa. Other reservists used sling equipment to mount a decommissioned F–4 Phantom jet aircraft at the entry of the Emporia, Kansas, airport and provided showers and cold food storage for twelve hundred girls, ages 12–18, at the International Girl Scout Jamboree at Marion Lake, Kansas. Still another project involved building an outdoor amphitheater to seat three hundred people at the historical museum of Fort Missoula, Montana. In Colorado, Army reservists reroofed buildings, built parking lots, and renovated the Pawnee National Grassland. In Wyoming, they assisted with erosion control and helped prepare a site for a new school playground.

Defense against attacks employing weapons of mass destruction (WMD) has become an important RC mission that requires extensive work with civil authorities. The ARNG established ten regional rapid assessment, initial detection teams to respond to suspected or actual attacks involving WMD. State or federal governments could send these teams to assess situations, advise the local commanders, and speed the flow of requested DOD resources. Army Reserve soldiers worked on consequence-management issues at the DOD level to ensure appropriate response to WMD incidents, using USAR and ARNG assets. As of September 1998, Army Reserve soldiers had provided instruction on WMD defense in twenty-two U.S. cities, using qualified USAR instructors. During FY 1998, USAR teams provided WMD instruction to federal partners in the Department of Veterans Affairs, the U.S. Customs Service, and the U.S. Probation Department. In addition, the U.S. Army Reserve Command hosted and participated in Exercise WMD CONSEQUENCE MANAGEMENT 98, simulating a terrorist attack on Augusta, Georgia. The DOD, the Department of Veterans Affairs, and the U.S. Public Health Service developed the exercise to test the ability of the National Disaster Medical System to respond to a WMD disaster.

Another ongoing area of RC support to civil authorities was that of counterdrug operations. During FY 1998, the ARNG continued to provide

vital assistance to law enforcement agencies and community-based organizations in support of the president's National Drug Control Strategy. The bulk of the ARNG effort supported the governors' state plans for use of Guard personnel in drug interdiction and drug demand-reduction activities. The Guard provides a wide range of support to federal, state, and local law enforcement agencies: assisting with cargo inspection at ports of entry, aerial and ground reconnaissance, intelligence analysis, training, constructing border roads and fences, and producing more than thirty-three thousand map products. Drug demand-reduction activities reached millions of people through support to community coalitions across America. During FY 1998 the ARNG provided 552,543 workdays in support of 13,212 missions.

The USAR conducted 158 counterdrug operations involving more than 350 soldiers in FY 1998. USAR support took a variety of forms: Reserve intelligence personnel supported law enforcement agencies with analysis and linguistic skills. The Army Reserve provided aviation support in the form of reconnaissance aircraft. USAR troops also provided maintenance for classified electronic equipment. Reserve engineers engaged in bridge and road construction to support U.S. border interdiction, range construction, and crack-house demolition.

Equipment and Maintenance

The Army National Guard is modernizing its equipment to fulfill its state, national, and international missions. Significant initiatives include modernization of field artillery with M109A6 Paladin self-propelled howitzer systems and the multiple launch rocket system (MLRS). The ARNG has been modernized with three Paladin-equipped battalions and was programmed to field fifteen more battalions through FY 2001. At the end of FY 1998, ten MLRS battalions were in the ARNG. Congress appropriated $95 million in FY 1998 for eighty M2A20DS Bradley infantry fighting vehicles for ARNG units. Department of the Army funding paid for acquisition of Family of Medium Tactical Vehicles trucks, MLRSs, Avenger surface-to-air missile systems, M1Al tanks, single-channel ground and airborne radio system (SINCGARS) radios, heavy equipment transporters, palletized load systems, M16A3 rifles, and Volcano scatterable mine systems. In addition, the ARNG used its own National Guard and Reserve Equipment Appropriation (NGREA) funds to purchase night-vision equipment, modification kits for UH-60Q medical evacuation helicopters, reverse-osmosis water purification units, dump trucks, Engagement Skills Trainers, five-ton tractors, boresight equipment for AH–1F helicopters, and armor fully integrated simulation trainers. Other significant equipment fielded to ARNG units included M2A0/M3A0 Bradley fighting vehicles, 120-mm mortars, and the All-Source Analysis System, as well as various training aids, devices, simulations, and

simulators. The ARNG received several thousand M249 squad automatic weapons (SAWs) in FY 1998 and is scheduled to receive more than thirty thousand SAWs by FY 2003. This delivery will fill 80 percent of the Army National Guard's SAW requirement.

USAR equipment deliveries from active Army units proceed in Department of the Army Master Priority List sequence. This procedure helped the highest-priority units field equipment compatible with that of AC units, but low-priority units did not receive the equipment they needed to maintain compatibility. The Army procurement budget provided the following equipment in the quantities parenthetically indicated during FY 1998: Advanced Field Artillery Tactical Data System (3), All-Source Analysis System (8), all-terrain cranes (7), Army Global Command-and-control System (2), Global Positioning System (Ground) (4,654), heavy equipment transporters (8), high-mobility trailers (381), M249 squad automatic weapons (6,589), Maneuver Control System (1), protective masks (4,301), and SINCGARS radios (3,264). Many additional items were provided from Army funds. These acquisitions were of new equipment; cascading (that is, the transfer of older equipment to the USAR from active Army units receiving new materiel) was minimal in FY 1998. As the active Army modernizes its weapon systems, the old systems are not distributed to the USAR but are cascaded to the ARNG.

The NGREA provides the USAR with the flexibility needed to pursue priority equipment acquisition, but the NGREA funding level still fell short of essential funding for equipment requirements. The USAR plans for purchasing new equipment were in line with known Army modernization plans in FY 1998. These equipment purchases have helped overcome Army funding shortfalls by using NGREA funding to provide new equipment for USAR first-to-fight and first-to-support units. When mobilized, these units' soldiers will thus have been trained on equipment compatible with that of active units. The modernization trend in the RC had been positive until FY 1998, but NGREA funding dropped from $113.7 million in FY 1997 to only $75 million in FY 1998. This reduction became a significant concern because the NGREA had provided the flexibility to modernize the USAR's combat support and combat service support equipment.

Equipment modification programs sustain the compatibility of RC and AC equipment. As budgets shrank and less in-use equipment was available for distribution to the RC, equipment modification programs represented an alternative way to extend the service life, reliability, and safety of existing equipment. Maintenance requirements became even more critical as the RC was tasked to perform more missions. Converting excess vehicles to the correct configuration allowed units to fill shortages, eliminate excess vehicles, and improve readiness. No conversion programs were eliminated in FY 1998 or planned for elimination in FY 1999.

The USAR M915A4 program represents a typical FY98 conversion initiative. Under the program, M915 line haul tractors are refurbished with a commercial glider kit. The glider kit program uses USAR mechanics from transportation units, working alongside civilian staff at Fort McCoy, Wisconsin, to strip down deteriorated vehicles received from the field. Vehicle support systems are replaced with parts from the glider kit, such as the frame, front axle, brakes, fuel tanks, air-conditioned cab, electrical wiring, and other replaceable components. The result is an almost-new vehicle, designated M915A4. USAR soldiers receive hands-on experience and training while upgrading their units' vehicles, saving 55 percent of the cost of purchasing new vehicles. Plans call for 122 M915 line haul tractors to be upgraded in FY 1999, 122 in FY 2000, and 122 in FY 2001.

Use of the M915 glider kit is only one example of the USAR conversion strategy. Conversions provide users with the latest technology inserted into used equipment at a fraction of the cost of new. In FY 1998, the Army Reserve converted seventeen five-ton cargo vehicles to the drop-side configuration and sixteen 3/4-ton trailers from the M101A2 model to the M101A3. Thirteen generators were converted from gasoline to diesel engines, and 133 high-mobility multipurpose wheeled vehicles (HMMWVs) were converted from M1037 shelter carrier models to M998 hard-top models. All conversions involved using equipment already owned by the USAR, rather than replacing old equipment with newer models.

The ARNG conducted a variety of its own equipment modification programs in FY 1998. The ARNG was scheduled to convert 770 M1037 HMMWV shelter carriers to M998 HMMWV troop/cargo trucks, using conversion kits purchased in FY 1997, but the kits were not delivered until late in FY 1998; the resulting delay caused the conversion process to slip into FY 1999. The ARNG did convert 70 M996 HMMWV ambulances to M998 HMMWVs. The ARNG 2 1/2-ton Extended Service Program, previously funded for 1,750 vehicles, was suspended, pending completion of a study (due in December 1998), of the desirability of outsourcing the program's work. The Army programmed $70 million in FY 1999 for modification of the Bradley Fighting Vehicle System. ARNG maneuver battalions will receive a modern and more capable Bradley system that will be compatible with the Bradleys found in AC combat maneuver battalions.

The USAR deployed a variety of new equipment to enhance Army strategic and operational mobility in FY 1998. In June 1998, the Army Reserve christened the Army's first floating crane in Baltimore, Maryland. Named the *Keystone State*, this vessel honors the thirteen Army reservists from the 14th Quartermaster Detachment based in Greensburg, Pennsylvania, who were killed when an Iraqi Scud missile hit their barracks in Dhahran, Saudi Arabia, during Operation DESERT STORM in 1991. The floating crane has a lift capacity of 115 long tons and a 175-foot reach—enough to lift the

heaviest Army cargo. The *Keystone State* belongs to the 949th Transportation Company (Floating Craft) in Baltimore. The USAR rolled out its new HEMTT common bridge transporter in August 1998. The transporter is a remanufactured truck with enhanced capability to transport simultaneously a float bridge and a fixed bridge. As a result, float and fixed bridge units can be consolidated into multi-role bridge companies. The USAR 459th Engineer Company in Clarksburg, West Virginia, became the first such bridge company in the Army.

FY 1998 saw the conclusion of the RETROEUR (European Retrograde of Equipment) Program, in which the Army National Guard redeployed, repaired, and redistributed excess active Army equipment from the drawdown of U.S. forces in Europe. The program had six repair sites with various specializations: Santa Fe, New Mexico (wheeled vehicles); Camp Shelby, Mississippi (wheeled and tracked equipment); Fort Riley, Kansas (wheeled and tracked equipment); Piketon, Ohio (wheeled vehicles and engineer equipment); Fort Indiantown Gap, Pennsylvania (wheeled vehicles and Bradley fighting vehicles); and Clackamas, Oregon (communication and electronic equipment). The program's redistribution facility was located at Lexington, Kentucky. Of the program's 450 employees, 75 percent were ARNG soldiers and 25 percent were civilians. Most of the ARNG soldiers were state employees reimbursed with federal funds, whereas most of the civilians were employed at Fort Indiantown Gap and Clackamas as temporary federal employees. As of 30 September 1998, RETROEUR sites had received 8,968 vehicles, 17,642 pieces of communication-electronics equipment, and $413.5 million worth of excess nonrolling stock such as freight containers. The total value of all the equipment exceeded $2.6 billion. The equipment repaired included trucks, trailers, M1A1 tanks, M113 night sights, and other miscellaneous electronic equipment. By the end of the program, 6,948 vehicles and 11,850 communication-electronics items received had been repaired successfully and excess equipment valued at $333.7 million had been redistributed. In addition, the ARNG repaired and redistributed more than $2 billion worth of equipment at the direction of the U.S. Army Materiel Command. Cascading will remain the primary source of equipment for ARNG lower-priority units. Because of the availability of cascaded equipment, equipment on hand is no longer the primary factor in determining unit readiness standards. The Army Reserve received only a small amount of equipment in FY 1998 as a result of AC downsizing.

The Integrated Sustainment Maintenance (ISM) Program aims to integrate the capacities and capabilities of the active Army, the USAR, and the ARNG into one repair program, focusing on rebuilding components using production-line methods at central locations instead of performing local repairs or purchasing new components. ISM uses a competitive bidding process to award repair contracts of specific components to centers

of excellence (COE). The COEs for the ARNG operate out of existing maintenance facilities, using existing tools and test equipment. The Guard is phasing its program in over a two-year period in each of its eight local sustainment management areas. At the end of FY 1998, the second year of program participation, ARNG COEs were repairing 222 area component lines for area states, 71 regional lines for all Army components within two continental U.S. regions, and 1 national line for one of the Army's commodity commands. Because of the strong support from the field, ISM allowed the ARNG to avoid costs of $8.3 million in FY 1998.

During FY 1998, a one-year pilot program demonstrated the applicability of controlled-humidity preservation (CHP) technology to the ARNG, and the National Guard Bureau became the Army's lead agent for CHP. The ARNG CHP program was designed to offset maintenance requirements by reducing required services and repairs of equipment not required for training on a recurring basis. The original vision for CHP anticipated placing 25 percent of selected equipment (with emphasis on technically advanced and maintenance-intensive items) into CHP shelters for a three-year period. When stored in controlled conditions, the equipment would be considered ready, and all maintenance services would be deferred until withdrawal from storage.

6

Logistics

Management and Planning

The Army is implementing a Revolution in Military Logistics (RML), a multiyear transition of Army logistics from a system relying on mass to one based on velocity, mobility, and information. Battlefield operations projected for Army XXI and later forces mandate a streamlined logistics structure, reduced demand, less weight and volume of supplies, and reduced time between demand for and provision of supplies. The RML should meet these needs by reengineering logistics practices and exploiting advances in information technology to reduce overall demand while maintaining the effectiveness of forces in the field.

Since 1995, the velocity management (VM) program has been the Army's vehicle for reengineering its logistics practices. Velocity management comprehensively examines Army logistical processes with the intent of improving the flow of materiel and information through the logistics system by substituting velocity (the rapid delivery of materiel from the wholesale level) for mass (large stockpiles of materiel at the unit level). The VM program aims to achieve this improvement by finding and eliminating sources of delay and inefficiency in logistics processes to get supplies to the soldier as quickly as possible. Velocity management has marked a major change in Army logistic practice. Traditionally, the logistics system has been thought of by function, such as ordnance, transportation, or quartermaster. By contrast, VM looks at logistics by specific process (for example, the processes of ordering and receiving a spare part or of repairing a piece of equipment). These processes cut across functions. VM can be thought of as managing logistics by process, with an emphasis on streamlining the constituent processes of the logistical system, reducing the time it takes to perform basic processes, improving quality, and lowering costs.

The Velocity Group oversees the VM program. In FY 1998, the group consisted of a consortium of senior Army logisticians jointly chaired by the deputy chief of staff for logistics, the deputy commanding general of the Army Materiel Command (AMC), and the commanding general of the Combined Arms Support Command. Membership included senior leaders from the Office of the Deputy Chief of Staff for Logistics (ODCSLOG); the Army Forces Command; the AMC; the Training and Doctrine Command; the

U.S. Army Europe (USAREUR); the Eighth U.S. Army, Korea (EUSAK); the Defense Logistics Agency; the General Services Administration; the Military Traffic Management Command; and the U.S. Transportation Command. VM process improvement teams and site improvement teams led by senior logisticians were established at all active and reserve component organizations. The Velocity Group initially focused on five Class IX, or spare parts, processes: ordering, shipping, repair, stockage requirements, and financial management. These processes were chosen for their potential for systemwide improvement. Before VM got under way, order–ship time (that is, the length of time between placement of a wholesale part order and the part's availability to the customer) averaged twenty days. The Velocity Group's initial goal was to reduce this time to seven to ten days, even for routine orders. Application of velocity management techniques led to synchronized cycle times, provided dedicated transportation support, and eliminated wasted time in the supply and distribution chains. As a result, several continental U.S. (CONUS) installations reduced average order–ship time to six to nine days. Shipment times to the USAREUR and the EUSAK were cut in half, averaging 16 and 14.5 days, respectively. The key to improvement in order–ship time was the fielding, throughout the Army, of the Standard Army Retail Supply System-Objective (SARSS-O) and related automatic identification technology.

Army Total Asset Visibility (ATAV) is a comprehensive U.S. Army initiative that furnishes managers throughout the Army with information on the location, quantity, condition, and movement of materiel assets retrieved from existing and emerging automated systems worldwide. The ATAV is supported by automatic identification technology, such as radio frequency technology, laser optical technology, and bar coding. These technologies enable Army logisticians to monitor cargo movements, divert shipments, locate critical supplies, and eliminate human error. Radio frequency automatic identification technology was used to provide visibility of critical assets during TURBOCADS (Containerized Ammunition Distribution System) 98 and other recent exercises. Radio frequency automatic identification technology has been implemented throughout Europe and continued in use in support of Operation JOINT FORGE in Bosnia. The Army also completed radio frequency implementation in Korea in FY 1998. The Automated Manifest System uses optical memory cards to enhance receipt processing of freight manifest multipack forms at Army installations. The system has been implemented as a stand-alone version at central receiving points and as an integrated capability within the SARSS-O at direct support units. In FY 1998, the ATAV extended to more than three million National Stock Number items for managers throughout the Army and the Department of Defense (DOD). In support of the Lateral Redistribution and Procurement Offset Initiative (directed by the Office of the Secretary of Defense), the

ATAV provided asset data to all the armed services and the Defense Logistics Agency.

The Army has also been integrating automatic identification technology, in the form of radio frequency tags as well as bar coding, into the ammunition business process. Automatic identification technology was introduced to maximize source data automation and provide in-transit visibility of ammunition assets being transported to ammunition supply points (ASPs). A prototype test of the integration of automatic identification technology (AIT) into the ammunition supply system was successfully completed in August 1998. This test involved Crane Army Ammunition Activity (Indiana), and the Military Ocean Terminal at Sunny Point (North Carolina) in the continental United States, and the port at Nordenham, the Miesau Storage Activity, and Ammunition Supply Points 1 and 8 in Germany. The Army expected to extend Ammunition/AIT integration to additional ASPs and Tier 1 ammunition depots in FY 1999. Implementation at remaining ASPs, ammunition depots, ports, and plants will be contingent on the availability of funds.

During FY 1998, the DOD built upon the Army successes achieved through use of automatic identification technology. The DOD AIT operational prototype, sponsored by the U.S. European Command, focused on four activities: unit movement, seavan (container shipping operations), air cargo, and ammunition supply. Key benefits expected from the prototype were easier distribution of assets contributing to reduced inventory and receipt processing time, improved content visibility and tracking of theater sustainment shipments, and improved visibility of in-theater truck convoy and rail movements. In addition, the application of automatic identification was expected to yield improved source data accuracy, increased nodal throughput, and increased potential interoperability with commercial vendors and shippers through the use of a commercial standard shipping label.

As the Army reorients its forces from forward deployment to CONUS basing, the AMC is introducing a distribution-based system for logistical support to decrease reliance on forward stockpiles. Automated networks of high-speed processors linked by satellite communications will tie the system together, providing tracking and access at all levels as well as global direct distribution. In FY 1998, the AMC formulated requirements and began issuing requests for proposals for several information systems supporting distribution-based logistics. Army Electronic Product Support will establish a single point of entry for all AMC Web-based logistic functions. Through this effort, the AMC will provide full automation of requisitioning interfaces, including finance, and will link customers to AMC inventories and catalogs. The Logistics Integrated Data Base is an AMC project to combine information on readiness, maintenance, supplies, pipelines, and assets into a relational database that provides Web-based access to logistics information at a single site, rather than requiring separate access to the current sixty-six separate

databases. The Global Combat Support System-Army (GCSS-Army) will provide an integrated tool for Army, joint, and allied combat service support operations. This system involves three main elements: retail logistics modernization; wholesale and retail logistics integration, which includes wholesale logistics modernization; and joint logistical interoperability.

As a part of the GCSS-Army, the AMC intends the Wholesale Logistics Modernization Program (WLMP) to modernize the Army's information management system for wholesale logistics and to restructure business practices at the wholesale and installation levels through adoption of best commercial practices and their associated information technology. The WLMP will exploit advances in information technology to achieve a single Army logistics business system and will establish a long-term partnership with industry. After receiving general approval from the deputy undersecretary of defense for logistics in April 1998, the AMC revised the initial draft request for proposals for the WLMP, made notification to Congress, and issued a restructured draft request for proposals in September 1998.

In November 1997, the vice chief of staff, Army, approved a campaign plan for the Single Stock Fund (SSF), a crucial part of logistical modernization. The Army intends the SSF to consolidate existing retail and wholesale stock funds into one vertically integrated account for more efficient use of resources. In January 1998, the ODCSLOG organized a program management office located at AMC headquarters. The AMC has been designated the SSF national manager.

Over the years, installations and major commands have developed a number of automated central issue facility (CIF) systems, and a single standard Army-wide system has been needed to improve their management. The purpose of the CIF Installation Support Module is to provide a standardized Army-wide, automated, user-friendly system for the receipt, storage, issue, exchange, and turn-in of authorized organizational clothing and individual equipment at Army installations. The program manager-sustaining base automation has been developing the CIF module. As a result of significant problems identified when the CIF module was fielded to Fort Stewart and Hunter Army Airfield, Georgia, it was returned to development in October 1997. All problems that would either stop or hamper CIF missions were either fixed or had available acceptable procedures to accommodate problems before completion of the software acceptance test in March 1998. A configuration control board chaired by the program manager-sustaining base automation reviewed less-serious problems on 31 March 1998 and assigned priorities for their solution. By the time the configuration control board convened, work had begun on accommodating CIF annexes within the system data structure, a feature needed before the USAREUR could accept the module. The first two priorities agreed to by the configuration control board were remediation of potential Year 2000 problems and changing population-based stockage

requirements. At the end of the fiscal year, work on accommodating CIF annexes and remedies for potential Year 2000 issues continued, but there were not enough funds to begin work on changing the method of computing stockage requirements. An aggressive fielding schedule was developed, calling for fielding the module to all CIFs worldwide (except the USAREUR) by the end of March 1999. The USAREUR's fielding schedule depended on development of support for CIF annexes.

Maintenance

The program manager for test, measurement, and diagnostic equipment (PM-TMDE), at the direction of a TMDE General Officer Steering Committee, drafted the Army Diagnostic Improvement Program (ADIP) Master Plan on 24 October 1997. This plan outlined a strategy to reduce significantly the cost of equipment operations and support (O&S) by centrally coordinating efforts through the PM-TMDE, and proposed to maximize O&S cost savings by coordinating the horizontal technology integration of the ADIP into all of the newly developing systems and into as many existing systems as feasible. The ADIP Master Plan was released and posted on the ADIP homepage for review and comment by all Army organizations. The General Officer Steering Committee endorsed the strategy of horizontal technology integration, which would lead to embedded sensors and built-in test capability. The objective was to improve current weapons system diagnostics, establish a strategy for future systems to use embedded diagnostics, and minimize external testing.

The ODCSLOG briefed the chief of staff, Army, in February 1998 on a funding strategy and policy that would accelerate the ADIP. Since then, the PM-TMDE, the Maintenance Policy Division of the ODCSLOG, and the Force Development for Logistics Division of the Office of the Deputy Chief of Staff for Operations and Plans have been developing policy and programming funds for this initiative. In the short term, the integrated family of test equipment enjoyed a high level of funding for the 2000–05 Program Objective Memorandum. For the long term, in April 1998 the vice chief of staff, Army, signed an accelerated application of embedded diagnostics policy memorandum that directed the combat and materiel developers to coordinate their embedded diagnostics plan for new and retrofitted equipment with the PM-TMDE. In addition, the Army acquisition executive signed a policy directing major weapons system program managers to coordinate their embedded diagnostics plans with the PM-TMDE.

Depot maintenance is the Army's strategic maintenance sustainment base and is the only source of supply for fully reconditioned or overhauled major pieces of equipment or end items. For approximately one-fourth the cost of new equipment procurements, these end items fill equipment shortages, modernize the force, and ensure the equipment readiness of the Army's

warfighting commanders in chief. The Army's arsenals, depots, and plants have always played important roles in developing and maintaining weapons and other equipment, as well as supplying many of the basic weapons needed by the Army. Since the end of World War II, the number of Army-owned maintenance depots has declined. When the recommendations of the 1993 Defense Base Realignment and Closure Commission were implemented in 1997, only five maintenance depots and eight ammunition plants remained in the Army depot system. With a few exceptions, such as Watervliet, New York, and Rock Island, Illinois, the primary role of Army depot facilities has generally evolved into one of rebuilding and maintenance. The pressures of sharply lower defense budgets and reductions in military procurement have led to changes in the accepted policy for dividing work between the government and the private sectors. Both sectors are shrinking, so that the rebuilding and overhauling work previously performed almost exclusively in government facilities has become more appealing to the private sector. For FY 1998, the Army had a funding requirement of $1.359 billion for its depots. Of this total requirement, only $819.897 million was funded, leaving an unfunded requirement of $539.780 million, or a funding rate of 60 percent.

Sustainability

The Army requires sufficient outloading infrastructure to project quickly a CONUS-based force with its associated equipment and ammunition. Therefore, Forces Command, through the authority of Headquarters, Department of the Army, designated 15 installations, 14 airfields, 17 strategic seaports, and 11 ammunition plants and depots as power projection platforms to support this mission. To meet force projection requirements identified in the DOD Mobility Requirements Study of 1992 and the 1995 Mobility Requirements Study Bottom-Up Review Update, the Army Strategic Mobility Program (ASMP) has identified and assigned priorities to infrastructure improvements at these power projection platforms. ASMP infrastructure initiatives include upgrading airfields, improving rail and containerization facilities, and constructing warehousing and other installation-specific projects. FY98 projects included major improvements in the Naval Weapons Station Concord's ability to transship Army ammunition containers; construction of an Arrival/Departure Airfield Control Group complex at Fort Bragg, North Carolina, and a pre-positioning facility at Charleston, South Carolina; and improvement in container facilities at the Crane (Indiana) and Blue Grass (Kentucky) Army Ammunition Depots. The Army has programmed sufficient resources to improve its ability to meet established deployment timelines for contingencies up to two major theater wars.

Based on the Mobility Requirements Study Bottom-Up Review Update, Army strategic sealift needed 19 large, medium-speed, roll-on/roll-off ships (LMSRs); 31 roll-on/roll-off ships; 8 fast sealift ships; 6 crane ships; 2 heavy lift pre-positioning ships; 3 lighter aboard ships; and 2 container ships. These ships would enable deployment of a five-division corps within seventy-five days. The LMSR program involved acquisition of fourteen newly built ships plus conversion of five ships, to provide a total of nineteen ships much larger and more efficient than current Ready Reserve Force roll-on/roll-off ships. The five conversion LMSRs were already in service. Four of the five are loaded with Army Pre-positioned Stocks-3 (APS-3) equipment stationed in the Persian Gulf. The one remaining conversion LMSR was assigned to the Navy surge sealift program. Three of the fourteen new-construction LMSRs have been delivered, with one (the *Watson*) loaded with APS-3 cargo and positioned in the Persian Gulf. Of the fourteen new-construction LMSRs, eight have been programmed to support the Army's afloat pre-positioning program by FY 2001. The Navy is expected to have five conversion LMSRs and six new-construction LMSRs in the surge sealift program. The plan for moving pre-positioned equipment from the older ships to the new ones (the transload plan) consists of three phases. As of the end of FY 1998, Phase I, the transload of combat and combat support equipment from seven interim Ready Reserve Force roll-on/roll-off ships to five conversion LMSRs, had been completed. Phase II, the loading of the first four new-construction LMSRs with additional combat support and combat service support equipment, was under way. Phase III, the cross-loading of equipment from the five conversion LMSRs to four new-construction LMSRs, was expected to be completed in FY 2001.

Army watercraft are key elements in the logistical support of power projection. More than 90 percent of the materials required to sustain operating forces are transported by strategic sealift. U.S. Army watercraft provide the means to transfer that cargo from strategic sealift ships to the shore in Logistics Over-the-Shore (LOTS) operations. LOTS operations are conducted to ensure that strategic sealift can be off-loaded when fixed ports are inadequate, unavailable, or denied by enemy action. When conducted in conjunction with the U.S. Navy, these operations are known as Joint LOTS. In FY 1998, the Army watercraft inventory consisted of 252 pieces of equipment, including landing craft; causeway systems; and utility craft, such as tugboats, floating cranes, and barges. To make these assets more useful, pre-positioning of watercraft aboard three ships of the APS-3 fleet, known as the Port Opening Package (POP), continued. The Army placed landing craft, tugboats, and a limited number of modular causeway sections aboard these vessels. During FY 1998, the Military Sealift Command leased a second heavy sealift pre-positioned ship for the Army. Carrying four landing craft, utility (LCU-2000), plus associated gear for watercraft transportation units,

this ship joined the other two ships in the POP. The LCU-2000s each have a cargo-carrying capability of 350 short tons.

In addition to watercraft aboard the POP, the Army planned to forward-station other assets in the Central Command (CENTCOM) and the Pacific Command (PACOM) areas of responsibility. A swing strategy for watercraft stationing would provide a combination of thirty-five craft for the CENTCOM or the PACOM area of responsibility to complete the off-loading of the Army heavy brigade afloat and to conduct other LOTS and/or Joint LOTS operations. Twenty-five watercraft systems were to be located aboard the POP and ten craft each located in the CENTCOM and the PACOM commanders-in-chiefs' areas of responsibility. The main current program shortfall was the lack of sufficient roll-on/roll-off discharge facilities (RRDFs) aboard the POP. The RRDF supplies the interface platform between Army lighterage and strategic sealift ships (roll-on/roll-off) in LOTS or Joint LOTS operations. The Army used FY98 funds to procure additional RRDF causeway sections and ancillary equipment so as to have this capability aboard the POP or aboard other APS-3 ships, and it expected to resolve this shortfall by FY 2000.

Security Assistance

The solid relationship built between the Army and its Western European counterparts helped to avert a diplomatic crisis between the U.S. and Swiss governments during FY 1998. In 1997, the Department of State concluded that the government of Switzerland exported upgrade kits for M109-series self-propelled howitzers (technology that the Swiss procured from the U.S. Army) to the Netherlands without the consent of the U.S. government. The howitzer upgrade kits were destined for a Dutch manufacturer upgrading eighty-five howitzers for the United Arab Emirates. The unauthorized transfer of the gun tube technology violated the Arms Export Control Act, the Stratton Amendment (protection of cannon technology produced at Watervliet), and a memorandum of understanding concerning the U.S. government/Swiss Howitzer Co-Production Upgrade Program. The Department of State notified Congress of the violation, and the U.S. government lodged complaints with both the Swiss government and the Netherlands concerning the unauthorized transfer.

The Office of the Deputy Undersecretary of Defense (Acquisition and Technology) solicited the Army's support in reaching a compromise agreement with the Swiss to mitigate the impact of the unauthorized transfer. The Office of the Deputy Undersecretary of the Army (International Affairs) (ODUSA-IA), in concert with the AMC and Watervliet Arsenal, entered into formal negotiations with the Swiss Defense Procurement Agency to develop a compensation package for work lost to Watervliet Arsenal through the

Swiss unauthorized transfer and to mediate the impact of the maneuver on future defense programs with the Swiss. After months of negotiations, in March 1998 a Foreign Military Sales (FMS) case, valued at $4 million, was presented to the Swiss government to transfer workload associated with the machining of the muzzle brakes and the 47-caliber barrels of the Swiss guns to Watervliet Arsenal. In addition, an agreement was signed establishing a work-sharing arrangement between the U.S. government, United Defense (the U.S. howitzer manufacturer), and Swiss Ordnance Enterprise Corporation applying to any future third-country sales of upgraded M109 self-propelled howitzers armed with the Swiss 47-caliber cannon.

In 1998, Turkey released its ten-year modernization plan, with the procurement of a modernized tank as its cornerstone. Turkey expressed interest in the M1A2 Abrams tank. The ODUSA-IA, in conjunction with the prime contractor, General Dynamics Land Systems Division, established a steering committee to approach the Turkish government on the potential sale and to begin developing a strategy to respond to the potential Turkish request for proposals. The Turkish requirement called for the procurement of one thousand tank systems (with indigenous production, possibly two thousand) and the upgrade of thirteen hundred existing M60 tanks with a 120-mm gun. The estimated sales value of this program was between $5 billion and $7 billion. Like Turkey, Greece also identified a requirement for a modernized main battle tank, initiating an international competition among France, Germany, the United Kingdom, and the United States for the sale of 246 tanks with an estimated sales value of $1 billion.

In 1998, the ODUSA-IA and the Raytheon Company crafted a strategy for the commercial sale of the Patriot PAC-3 and Patriot Guidance-Enhanced Missiles to Greece, with a sales value estimated at $1.2 billion. The strategy included the creative use of excess defense articles, security assistance leases, and the spearheading of an interagency–industry working group to achieve consensus on technology transfer issues as well as guidance to the company on the feasibility of Raytheon's approach to pricing and offsets (reciprocal purchases from the customer nation). This was the first international competition in which the Patriot PAC-3 competed directly against a similar Russian system.

The nations in the Pacific Rim continued to express an interest in procuring U.S. Army weapons systems. Taiwan topped the list in dollar value of open FMS agreements. In March 1998, the government of Singapore officially submitted a request to procure eight Apache Longbow helicopters equipped with three fire-control radars (FCRs), along with 130 Hellfire missiles, for a sales value estimated at $340 million. Ensuing discussion among the Army Staff principals (the Office of the Assistant Secretary of the Army for Acquisitions, Logistics, and Technology; the ODUSA-IA; the Office of the Deputy Chief of Staff for Intelligence; and the Office of the Deputy

Chief of Staff for Operations and Plans) lasted longer than six months. At the center of the debate were issues surrounding the first-time introduction into the region of the advanced capability of the FCR and the nature of external threats to Singapore. Congress was notified of the potential sale of the Apache Longbow, minus the FCR. The notification period concluded in September 1998 with no congressional opposition. A decision was made to notify Congress of the potential sale of the FCR when the outstanding proliferation issues are resolved within the DOD.

In the Middle East, the ODUSA-IA dealt with a far different problem—one of tremendous magnitude for the Army's defense industrial base. Saudi Arabia, the Army's largest FMS purchaser, had begun to experience financial difficulties and was unable to make its quarterly deposits to the FMS trust fund, from which U.S. defense manufacturers and government activities are reimbursed for goods and services. In May 1998, representatives from the Saudi Ministries of Finance and Foreign Procurement met with representatives of the ODUSA-IA, along with representatives of the other services, to project Saudi financial disbursements for the remainder of the fiscal year. The Saudi officials informed the U.S. government that funding for the remainder of the calendar year would be severely constrained. The Army initiated a comprehensive review of all Saudi FMS agreements to scale back or delay the procurements in order to maintain the integrity of these programs. As FY 1998 drew to a close, the Saudi financial crisis had worsened, with the Saudi trust fund at its lowest level in recent history. The survival of ongoing programs was totally dependent on last-minute deposits by the Saudi government.

In Kuwait, the ODUSA-IA struggled to complete two major defense sales agreements with a total sales value in excess of $1.2 billion. In early 1998, the Kuwaiti government sought to purchase sixteen Apache Longbow helicopters, including six FCR sets, with an estimated sales value of $850 million. The process was delayed by a Kuwaiti request for a line-by-line review of the case and a number of configuration changes. The fiscal year closed with an agreement still pending. In addition, Kuwait submitted a letter of request to procure forty-eight M109A6 Paladin 155-mm self-propelled howitzers, with an estimated sales value of $400 million. In 1997, Kuwait had equipped one of its artillery battalions with a Chinese-made howitzer; however, a requirement still existed to equip two additional battalions. The ODUSA-IA and United Defense, the prime manufacturer, continued to stress the importance of Kuwaiti selection of the Paladin to maintain coalition compatibility. To meet the Kuwaiti requirement for a howitzer with a firing range of 40 km., United Defense offered to replace the standard 39-caliber gun tube with a 52-caliber tube. The United Defense offer, combined with U.S. government support and the Operation DESERT THUNDER buildup, prompted the Kuwaiti minister of defense to dispatch a team to the United

States to reevaluate the Paladin. From 26 February to 10 March 1998, the delegation toured the United Defense facilities at York and Letterkenny, Pennsylvania, and observed firing demonstrations of the 52-caliber tube at Aberdeen Proving Ground. The delegation was pleased by the discussions and impressed by the firing demonstrations. By the end of the fiscal year, the Kuwaiti Ministry of Defense had selected the Paladin to satisfy its artillery requirements and had forwarded the decision to the Kuwaiti Parliament for ratification.

In Jordan, a different scenario continued to play out. Presidentially directed U.S. Army drawdowns (transfers of redundant U.S. military equipment) have been key to the sustainment of the Jordanian military, with a drawdown valued at $100 million in 1996, $25 million in 1997, and an additional $25 million in 1998. During the late King Hussein's visit to Washington, D.C., on 17–20 March 1998, he discussed the Jordanian military requirements directly with Secretary of Defense William S. Cohen. Army-managed items requested by Jordan for inclusion in the 1998 drawdown were 14 M901 TOW carriers, 1,225 AN/PRC-77 radios, 100 Hawk rocket motors, 3.7 million rounds of 7.62-mm ammunition, and spare and repair parts for equipment previously provided to Jordan under FMS or drawdown authorities. The value of the Army's contribution to this effort was estimated at $13.4 million, and the Army was directed to execute the deliveries on 1 May 1998. At the close of the fiscal year, deliveries were ongoing.

Research, Development, Test, and Evaluation

The actual FY97 Army budget for research, development, test, and evaluation (RDTE) was $4.9 billion. The estimated RDTE obligational authority for FY 1998 was slightly higher ($5 billion) with a decrease to $4.8 billion projected for FY 1999. Total obligational authority for procurement subsequent to RDTE was $8.1 billion for FY 1997, estimated to decrease significantly to $6.9 billion for FY 1998 and projected to recover to $8.2 billion for FY 1999.

Information dominance—the degree of information superiority that enables Army forces to use information systems and capabilities to achieve an operational advantage while denying those capabilities to an adversary—was a major near-term focus of Army RDTE activity. The Army in FY 1998 tested a number of new or upgraded systems that contribute to information dominance. The Army Data Distribution System, including the Enhanced Position Location Reporting System and the Near-Term Digital Radio System, successfully supported the division advanced warfighting experiment in November 1998 and the Force XXI Battle Command Brigade-and-Below (FBCB2) limited user test (LUT) in August 1998. The FBCB2 is a digital battle command information system intended to provide commanders,

leaders, and soldiers with improved command-and-control and enhanced situational awareness. The FBCB2 consists primarily of software but is also expected to include a ruggedized computer for those users and platforms without an existing computer system. The LUT was conducted from 3 to 21 August 1998, at Fort Hood, Texas, with a battalion task force. Opposing force and passive electronic warfare systems were included to provide stress on the unit's operational use of the FBCB2. The purposes of the LUT were to confirm that solutions to problems identified during the Task Force XXI advanced warfighting experiment were in place and to verify that the new tactical Internet architecture improved digital and voice communications. Developmental Test-1 was conducted from May through June 1998 at Fort Huachuca, Arizona, to examine system performance and readiness for the subsequent LUT. This test employed sixty-one FBCB2-equipped nodes, including fourteen mobile platforms.

Development of improved artillery fire-control systems continued in FY 1998. The 1997 version of the Advanced Field Artillery Tactical Data System)—intended to provide integrated, automated support for planning, coordinating, and controlling all fire support assets (field artillery, mortars, close air support, naval gunfire, and attack helicopters—also completed its limited user test in October 1997, with release of the system on 22 July 1998. The Block II upgrade program for the Firefinder (TPQ-36 and TPQ-37) artillery-locating radar reached the Milestone II decision point for progression into engineering and manufacturing development in October 1997. The upgrade program was expected to double previous range performance (out to 60 kilometers for the TPQ-37), and provide a new capability for detecting rockets and missiles at ranges from 150 to 300 kilometers. The Army required the enhanced Firefinder system to be capable of roll-on/roll-off deployment from a single C–130 transport aircraft. Crew size was to be reduced from twelve to eight.

The Long-Range Advanced Scout Surveillance System (LRAS3) integrates a second-generation forward-looking infrared system with long-range optics, an eye-safe laser range finder, a day video camera, and a Global Positioning System (GPS) receiver with platform attitude determination. The LRAS3 can provide armor and infantry scout platoons with a sensor system capable of detecting targets at three times the range of the currently fielded AN/TAS-6 night observation device, long range. The first LRAS3 system produced in the engineering and manufacturing development phase of the program was delivered in June 1998, with production qualification testing to run through November 1998.

The Army also launched several information dominance Advanced Concept Technology Demonstrations (ACTDs) and Advanced Technology Demonstrations (ATDs) in FY 1998. The Air/Land Enhanced Reconnaissance and Targeting ATD, slated to run through 2001, demonstrated on-the-move,

automatic-aided target acquisition and enhanced identification using a suite of second-generation forward-looking infrared and laser sensors. Data from the sensor suite were to be fused to reduce false alarms and to enhance target identification. The Multi-Function Staring Sensor Suite (MFS3) ATD integrated multiple advanced sensors, including a staring infrared imager, a multifunction laser, and acoustic arrays to provide noncooperative target recognition (the ability to classify targets as friendly or hostile without recourse to an identification signal), incoming fire location, and air defense against low-signature or stealthy threats. The MFS3 supports the Future Cavalry Scout System, Future Infantry Vehicle, and Future Combat System. The Multi-Mission Unmanned Aerial Vehicle Sensor ATD was expected to demonstrate modular and interchangeable payloads employing electro-optic/infrared, multispectral, and integrated moving-target indicator/synthetic-aperture radar sensors for future tactical and short-range unmanned aerial vehicles. These sensors, coupled with ground station automated processing, have been designed to provide enhanced reconnaissance, surveillance, battle damage assessment, and targeting for brigades and smaller maneuver forces.

A second thrust of Army RDTE efforts has involved the continuing development of overmatching combat capabilities to exploit information dominance. The Army defines *overmatch* as a substantial advantage in combat capabilities over current and potential opponents by virtue of superior combat systems that employ advanced technologies. A major element of Army overmatch lies in the development of improved deep attack capabilities. The Army Tactical Missile System (ATACMS) Block IA extends the range of the Block I ATACMS by reducing the original payload from 950 to 300 bomblets and adding a GPS receiver to the existing inertial guidance system to provide the necessary accuracy at the increased ranges thus made possible. The Army Training and Doctrine Command coordinated a sensor-to-shooter assessment of existing test and exercise data to determine the Army's capability to detect targets at the Block IA ranges and its ability to process the information in a timely manner. Also, the XVIII Airborne Corps demonstrated targeting for deep attack in the January 1998 PURPLE DRAGON joint exercise.

The Army has also undertaken development of a further generation of the ATACMS, Blocks II and IIA, intended to deliver BAT (Brilliant Antiarmor, formerly Brilliant Anti-Tank) precision-guided submunitions at long range. The BAT submunitions then use acoustic and infrared sensors to detect and engage moving tanks and other armored vehicles autonomously. Block II missiles carry thirteen BATs; Block IIA missiles carry a smaller payload of six BATs to longer range. ATACMS Block II and IIA completed preproduction test flights in April 1998, with successful engagement of moving tank targets by all dispensed BAT submunitions in each flight.

Production qualification tests began in August 1998. The BAT submunition itself was also in development, having completed contractor development test flights in March 1998. A version incorporating preplanned product improvements successfully completed its first captive flight test in February 1998. The improvements included enhanced target-acquisition capabilities and a warhead useful against a wider range of targets.

An enhanced version of the current rocket fired from the MLRS, the extended-range (ER) rocket was expected to have a range of 45.0 kilometers or greater, compared with the fielded rocket's 31.5 kilometers. The rocket gains a longer range through a reduction of the number of bomblets in the payload, from 644 to 518, and an increase in the amount of propellant in the rocket. In addition, the bomblet was modified to reduce to a rate of 1 percent the number of hazardous duds on the battlefield. Both the current and ER rockets deliver Dual-Purpose Improved Conventional Munitions (DPICM) bomblets. The modified ER bomblet, XM85, had a redundant fuzing system and a self-destruct device. The fuzing modifications were not expected to affect the bomblet's lethality. The guided MLRS (GMLRS) rocket added a GPS-aided inertial navigation unit, intended to improve accuracy and increase effective range, to the ER rocket. DPICM bomblet payload was to be reduced further, from 518 to about 440. The GMLRS has been an ATD since 1994.

Developmental testing of the ER rocket in 1998 included a design verification test of six rockets to demonstrate corrections to earlier problems with the self-destruct fuze. These firings were conducted in March and April at White Sands Missile Range at short (16 km.), medium (26 km.), and long (48 km.) ranges with cold, ambient, and hot temperature conditions. A production qualification test of twenty-four low-rate initial production ER rockets was conducted in April and June at White Sands Missile Range to demonstrate improved accuracy with a new version of the ballistic algorithm. Earlier testing had revealed a range bias in which most rockets landed past their targets. These firings were also conducted at cold, ambient, and hot temperatures over ranges from 34 to 49 kilometers. Testing in the GMLRS program included completion of three flights in the ATD program. These ATD flights were to demonstrate a guidance and control package capable of achieving a two-mil angular accuracy with inertial-only guidance, and a 10-m. circular error probable with GPS-aided inertial guidance.

The Army sought to enhance the strategic mobility of both MLRS- and ATACMS-based deep attack weapons systems by integrating them with the High-Mobility Artillery Rocket System (HIMARS). That system, mounted on a Family of Tactical Vehicles five-ton truck chassis, was intended to provide lighter early-entry forces with ATACMS and MLRS firepower formerly available only to heavy forces. The HIMARS system, which

could be transported by C–130 aircraft, required 30 percent fewer airlifts to transport a battery compared with the current tracked M270 launcher vehicle. Four HIMARS systems were built as part of the fourth quarter of FY98's Rapid Force Projection Initiative ACTD. Three of the prototypes will remain with the XVIII Airborne Corps for extended user evaluation. Live-fire safety certification was successfully completed at White Sands Missile Range in the last half of FY 1998, with seventy-eight MLRS rounds and two ATACMS missiles fired.

Efforts to enhance the capability of tube artillery also continued in FY 1998. The 155-mm Sense-and-Destroy Armor (SADARM) "smart" artillery submunition is designed to attack and kill lightly armored vehicles. Each SADARM-loaded howitzer round delivers two submunitions. Once dispensed, the submunition deploys a parachute-like deceleration device. At a predetermined distance from the ground, the submunition ejects the deceleration device and deploys another device to stabilize and rotate the submunition. As the submunition falls and rotates, it searches the ground with a millimeter wave sensor (both active and passive) and an infrared sensor array. Using the sensors and detection logic, the submunition is designed to detect targets protected by countermeasures in a variety of climates. If the sensors detect a target, the submunition fires an explosively formed penetrator at the target.

SADARM operational, reliability, and live-fire tests were conducted in FY 1998. Carried out at Fort Greely, Alaska, in August, the operational test employed a target array composed entirely of real vehicles and included anticipated countermeasures validated by the Defense Intelligence Agency. The test consisted of five missions of 24 rounds each, fired at 19.4 kilometers, a likely range for combat use. The SADARM system did not get the required number of kills for the test environment. There were also two reliability tests. Of fifteen rounds fired, one round did not dispense its payload of submunitions. The reliability was scored as 0.44 (eleven of twenty-five), versus a requirement for 0.80. Three submunitions are to be scored when more data are available. Because of changes in the design and production process of the warhead liner, additional live-fire tests and evaluation warhead qualification and characterization tests were conducted in FY 1998, including two shots to assess any degradation in penetration performance resulting from the use of sandbags as ballistic countermeasures. In addition to its use as a payload for unguided 155-mm ammunition, SADARM was also a projected payload for the XM982 extended-range artillery projectile, which uses a GPS and an onboard inertial navigation system to achieve range and accuracy greater than conventional projectiles. The baseline XM982 version, loaded with DPICM, entered engineering and manufacturing development in January 1998. A SADARM carrier version with two submunitions was planned but not yet funded, as was a version with a unitary penetrator warhead.

Parallel with the development of new deep attack systems, the Army was developing new overmatching close combat capabilities. The Multi-Purpose Individual Munition/Short-Range Assault Weapon (MPIM/SRAW) is a one-person shoulder-fired weapon capable of defeating enemy forces in bunkers and light armored vehicles, out to an effective range of 500 meters. The MPIM/SRAW program completed its risk-reduction phase in March 1998, meeting all requirements on schedule and within budget. The program completed its second phase, system qualification, in May 1998. The Modular Weapon System (MWS)—a set of accessory rails permitting field attachment of sighting aids, ancillary weapons such as grenade launchers, and other accessories on M16 rifles and M4 carbines without the use of tools—finished testing and achieved materiel release in FY 1998. It was anticipated that the first unit would be equipped with the MWS in the first quarter of FY 1999. A possible successor to MWS-equipped rifles, the objective individual combat weapon (OICW), has been designed to fire 20-mm air-bursting munitions and more traditional 5.56-mm bullets, using an integrated sighting and fire control system incorporating a laser range finder and an infrared imaging system. The OICW program began a two-year advanced technology demonstration in FY 1998.

The joint Army/Marine Military Operations in Urban Terrain ACTD was created to explore technologies in command, control, communications, computers, and intelligence; lethal and nonlethal engagement; force protection; and mobility. The full exploitation of technologies explored is to be achieved by the development of tactics, techniques, and procedures to use new capabilities in a series of quarterly experiments that began in FY 1998 and are to continue through the end of FY 2000.

A variety of heavier close combat weapons also achieved important development milestones during FY 1998, largely as ATDs and ACTDs. The Line-of-Sight Anti-Tank (LOSAT) HMMWV-mounted kinetic-energy antiarmor missile was initiated as a DOD-approved ACTD in April 1998. The demonstration was intended to assess the operational value of LOSAT to the early-entry force and to supply information useful to the future development of a compact kinetic-energy missile that would provide similar capability to the much bulkier LOSAT.

The Advanced Tank Armament System program seeks to provide next-generation armament systems for direct fire weapons platforms, particularly the Abrams tank. The program focuses on a longer-barrel cannon for the Abrams, using 55-caliber ordnance instead of the current 44-caliber tube, as well as extended-range fire-control systems for all direct fire platforms incorporating automatic target detection and tracking. FY98 efforts centered on evaluating an existing German 55-caliber 120-mm tank gun, automatic target trackers, gun barrel coatings, and an electronic muzzle reference sensor. This program complements the Direct Fire Lethality ATD,

which began in FY 1998 and consists of two elements. One element is the development of an advanced kinetic-energy cartridge with a novel penetrator capable of defeating explosive reactive armor with a 40 percent increase in lethality over the current M829A2 round, incorporating a thruster system that improves accuracy up to 70 percent at extended ranges. The other element is the advanced drive and weapon stabilization program to investigate gearless gun elevation and turret azimuth drives and an optical fiber muzzle reference sensor.

RDTE activity in the field of force protection largely involved chemical warning systems. The first unit was equipped with the automatic chemical agent detector/alarm (ACADA) in the last quarter of FY 1998, replacing the M8A1 alarm. The portable ACADA also supplemented the handheld Improved Chemical Agent Monitor (ICAM) as a chemical defense survey instrument for detecting nerve and blister agents. Delivery of ICAMs began in September 1998 after an extensive production acceptance test. The ACADA and the ICAM are point detection devices, requiring direct contact with the chemical warfare agents they sense. They are complemented by a novel standoff capability to be provided by the Joint Services Lightweight Standoff Chemical Agent Detector (JSLSCAD), a second-generation system that significantly improves upon the capabilities of the earlier M21 Remote Sensing Chemical Agent Alarm. A lightweight, passive, and fully automatic detection system that scans the surrounding atmosphere for chemical warfare agent vapors, the JSLSCAD was specified to provide on-the-move, 360-degree coverage from a variety of tactical and reconnaissance platforms at distances up to 5 kilometers. The system entered engineering manufacturing and development in February 1998

7

Support Services

Morale, Welfare, and Recreation

Army Morale, Welfare, and Recreation (MWR) operating funds consist of the field-operating MWR programs and nonappropriated-fund instrumentalities (NAFI); the Army Recreation Machine Program (ARMP); and the Army Morale, Welfare, and Recreation Fund. Collectively, $1.3 billion in appropriated funds (APF) and nonappropriated funds (NAF) were applied to support FY98 operating and capital requirements worldwide—$90.7 million less than in FY 1997. APF support, down $39 million, was lower in every base operating account except Research, Development, Test, and Evaluation. There were two major contributors to this decrease: Major commands reported $18.9 million less in Military Personnel, Army, funds compared with FY 1997; in addition, no Military Construction, Army (MCA), projects were approved for MWR this year. For FY 1997, in contrast, the MWR budget funded $15.4 million in new projects. The drop in the Military Personnel, Army, account may have resulted from local confusion as to military reporting requirements, which led to inconsistent data. Clarifying guidance is being prepared. The MCA funding gap will close for FY 1999 because $33 million was approved for MWR projects. For the first time in five years, direct Operation and Maintenance, Army, support for MWR and family programs failed to exceed the Army's initial funding, thus reflecting the pressure that local commanders faced in FY 1998, matching scarce resources with priority base-operations requirements.

The decline in the value of the Korean won and the damage inflicted on the Eighth U.S. Army's MWR operations by severe flooding during summer's peak business months contributed greatly to lower total MWR revenue. Army net sales were down $25.5 million, ARMP revenues were down $21.6 million, and Army and Air Force Exchange Service (AAFES) payments were down $7.1 million. As in previous fiscal years, the ratio of APF to total NAF support was 2:1. Personnel costs, 53 percent of the total, were the main expense. After operating costs were paid, $126.2 million was available for capital requirements, such as major construction, furniture, fixtures and equipment, and capital purchases. This amount was $49.8 million less than in FY 1997, as a result of the lower cash revenue generated from operations ($34.4 million) and the lack of MCA projects for FY 1998.

In November 1995, the Department of Defense (DOD) published fiscal standards for MWR, requiring APF to fund 100 percent of authorized costs. Methods for measuring success in achieving these standards allowed for incidental program-related resale operations that were not authorized APF. The measurements focused on the relationship of APF and NAF operating support for Category A, Mission Sustaining Programs, and Category B, Basic Community Support, all exclusive of costs of goods sold and depreciation. For Category A, the minimum standard was 85 percent APF and 15 percent NAF; for Category B, the minimum ratio was 65 percent APF to 35 percent NAF. Army MWR founded its fiscal planning for the long term on matching sources of funding with APF and NAF requirements. The MWR board of directors had established tracking mechanisms to ensure proper execution of these standards. In FY 1998, MWR was in its fourth year of monitoring the progress in meeting these standards. MWR made steady improvements through FY 1998, despite the funding volatility associated with force restructuring. For Category A, the FY98 ratio was 88 percent APF to 12 percent NAF; for Category B, 61 percent APF to 39 percent NAF.

The MWR board of directors uses many tools to monitor MWR operating funds and evaluate the collective financial health of the program. Two critical indicators are the amount of cash relative to the amount of debt in the funds, and the amount of outstanding Army MWR funds loaned for improvements in the MWR physical plant relative to the amount of cash held by field NAFI activities. The MWR board monitors both indicators to determine if financial plans are on track. As of 30 September 1998, the Army's collective ratio of MWR operating cash to current field liabilities was 0.9:1.0. This was lower than the 1.1:1.0 ratio reported in FY 1997, primarily as a result of the economic and severe-weather conditions experienced in Korea during the past year. The Army MWR funds ratio of loans to field cash deposits was 60 percent to 40 percent, up 9 percentage points from 30 September 1997. As anticipated, these indicators reflect a less healthy position for the collective funds than the position that existed in FY 1997. As a result, spending restraints imposed by the board several years ago remain in place.

In FY 1998, the Army continued support for soldiers and their families affected by contingency-related deployments. During Operations JOINT ENDEAVOR, JOINT GUARD, and JOINT FORGE in Bosnia-Herzegovina, the MWR program established more than fifty service points to provide recreational, social, and other support services. MWR operations provided services to soldiers and deployed personnel, including comprehensive daily recreational programs; weight and aerobics training; and access to physical fitness equipment, libraries, and wide-screen televisions. The AAFES sponsored a first-run video service, provided commercial telephone access, and furnished food and retail services at all base camps. Armed Forces Professional Entertainment supplied actors, comedians, musicians, and a

variety of other entertainment groups. Civilian MWR professionals deployed with soldiers to enhance quality of life and unit readiness. Family Assistance Centers were focal in providing help, guidance, information, and referrals to family members during deployments or other contingency operations. The Army received $12 million for supporting contingency operations. Of that total, $6.8 million went directly to improving the quality of life for soldiers in the field. The remainder went to family support groups, child and youth programs, and deployment education. The Army also provided MWR support for soldiers in Southwest Asia. Troops deployed to Saudi Arabia received support from civilian MWR personnel in Riyadh and Dhahran, and MWR engaged contractors to support Army forces in Kuwait.

MWR food and beverage programs showed lowered but satisfactory financial performance. Food, beverage, and entertainment programs—including clubs and theme-concept restaurants—generated revenue of $188 million in FY 1998, the third consecutive year of decline. After expenses, this resulted in a net income before depreciation (NIBD) of $9.7 million, slightly less than in FY 1997. FY 1998 was the first year in which the MWR board of directors set an NIBD standard for food operations. At the end of FY 1998, installations achieved food NIBD of 5.3 percent, exceeding the initial board standard of 5.0 percent. In FY 1999, the standard will increase to 6.0 percent and in FY 2000, 7.0 percent. Traditional clubs as a subset of MWR food and beverage programs generated an NIBD of $8.8 million in FY 1998 ($947,000 less than in FY 1997) on total revenues of $164.2 million. After adjusting for $782,000 in base realignment and closure (BRAC) expenses and the $1.4 million decline in an NIBD for Korea-Area II that resulted from flood damage and the devaluation of the won, the financial performance for FY 1998 indicated that the clubs held their own. Without these losses in the club program, the clubs would have generated an NIBD of $11 million, an increase of $400,000 over FY 1997. Bingo produced more than $33.8 million in revenue and $7 million in NIBD.

Club activities have been changing, merging history and tradition with demand-driven and financially viable activities by redesigning operations to appeal to a younger, more sophisticated market. In March 1994, the MWR board of directors approved the in-house development of a branded-theme program, analogous to private-sector chain restaurants, to reverse losing trends in club operations while upgrading installation food and beverage programs. At the end of FY 1998, there were twenty-one MWR full- and quick-service restaurants in operation under the program, with thirty-six units to open by the end of FY 2000. The Army has also established a basic ordering agreement with Orion Food Systems of Sioux Falls, South Dakota, to make its seven manufacturer-brand quick-service food programs available to military installations as part of the branded-theme food and beverage program. The alliance with Orion augments the Army Community and Family

Support Center's five standard branded-theme concepts to fill gaps in food service markets. FY98 total revenue for the branded-theme program exceeded $7.2 million, with an NIBD of more than $640,000, or nearly 9 percent. This positive NIBD exceeded the basic ordering agreement's standard for food operations, despite start-up expenses of more than $150,000.

Army Community Services (ACS) assists commanders in meeting the needs of soldiers, Army civilians, retirees, and their families by providing support services and training. The Army Family Action Plan is an ACS activity that solicits Army community opinion on local problems and possible solutions, and then conveys the resulting information to Army leaders in an effort to secure legislation, policies, programs, and services that improve conditions within Army communities. Several issues identified through the action plan were resolved in FY 1998, notably improvements in Variable Housing Allowance computation and better education for soldiers about the Montgomery GI Bill. Another ACS activity, the Family Advocacy Program, supplied training in advocacy for victims of spousal abuse to advocacy program managers at the major command and installation levels, allowing these organizations to provide expanded services to victims of domestic violence. ACS also established a partnership with the Employee Relocation Council (ERC, a trade association of businesses and professionals concerned with workforce mobility) to provide professional development training for ACS relocation program managers, offering them opportunities to identify best practices, find service partners, and participate in the ERC certification program to raise ACS professional standards.

Health and Medical Programs

Integrating distance learning into Army Medical Department (AMEDD) training offered the potential for increased unit readiness, improvement of military occupational specialty qualification and emergency medical technician certification rates, increased training quality, and better skill sustainment. In accordance with a mandate from the chief of staff, Army, the commanding general, Army Medical Department Center and School (AMEDDC&S), directed that all AMEDD courses be analyzed for distance-learning potential as alternatives to traditional classroom instruction. AMEDDC&S identified approximately 35 percent of AMEDD courses for funding through the Total Army Distance Learning Program (TADLP). AMEDDC&S expected course modifications funded by the TADLP in FY 1998 to reduce costs by reducing resident course lengths. With the incorporation of distance-learning techniques, the resident course length for 91B10 (medical specialist) reclassified training would be shortened by 50 percent, and the length for 91B30 (basic noncommissioned officer course) technical training would be shortened by 40 percent; the resident option

for 91B40 (advanced noncommissioned officer course) training would be eliminated in favor of distance learning. Other AMEDDC&S distance-learning efforts included online training in information management, as well as development of interactive courseware for training in combat lifesaving, blood shipment, and preparation of medical profiles.

The U.S. Army Center for Health Promotion and Preventive Medicine (USACHPPM) completed an interim exposure assessment and risk characterization for the DOD Office of the Special Assistant for Gulf War Illnesses (OSAGWI) concerning soldiers' possible exposure to depleted uranium (DU) during Operation DESERT STORM. The USACHPPM used existing DU test documents, pertinent data, and assumptions regarding DU exposure to produce an initial exposure assessment and health risk characterization for the OSAGWI's Level I exposure scenarios (in which a single M829 120-mm DU round, in a fratricide incident, penetrated the crew compartment of an M1A1 heavy armor tank). Level I individuals—that is, crew members and first responders, excluding those with DU fragment injuries—were estimated to receive committed effective dose equivalents of less than 0.5 rem (roentgen equivalent man) in 15 minutes' exposure. For comparison, the federal limit for occupational radiation exposure is 5.0 rem per year.

Congress directs the DOD to manage several appropriations for targeted research grant programs. Since FY 1992, the U.S. Army Medical Research and Materiel Command (USAMRMC), as executive agent, has administered targeted appropriations for research on prostate cancer, ovarian cancer, breast cancer, and neurofibromatosis. (After the National Cancer Institute, the DOD is the second-largest funder of breast cancer research in the United States.) The USAMRMC's Congressionally Directed Medical Research Programs Office manages these programs. In FY 1998, Congress appropriated $40 million for the prostate cancer research program, $10 million for the ovarian cancer research program, $138.5 million for the breast cancer research program, and $9.8 million for the neurofibromatosis research program.

Another area of extensive congressionally mandated research is telemedicine, the application of advanced sensor and communication technologies to the diagnosis and treatment of disease. The USAMRMC oversaw and funded a number of private-sector telemedicine programs in FY 1998. The Cooperative Teleradiology Project at the University of South Florida College of Medicine's Moffit Cancer Center in Tampa supported research into digital radiology. The Portable Digital X-Ray Project conducted by the General Electric Center for Research and Development sought to adapt digital X-ray technology for immediate military use, including providing a feasibility prototype for military evaluation. The Volume AngioCAT Project at MultiDimensional Imaging in Newport Beach, California, explored the potential for early detection of a wide spectrum of diseases. The Ultrasound

Imaging Initiative Project at the Cleveland Clinic in Cleveland, Ohio, intended to provide accurate medical imaging and diagnosis at an aid station or remote field hospital.

Advanced imaging techniques imply an enhanced ability to conduct minimally invasive medical procedures. An initiative funded at the Center for Minimally Invasive Technology of Massachusetts General Hospital in Boston would create a national program to generate and develop innovative and important concepts in minimally invasive therapy, and to do the work needed to make such experimental procedures practical for routine use by practitioners. The Periscopic Minimally Invasive Surgery Project of the Georgetown Medical Center in Washington, D.C., aimed to improve the state of the art in image-guided, minimally invasive spine surgery by developing a new generation of clinical techniques along with the computer-based software and hardware needed for their implementation. The Computer-Assisted Minimally Invasive Surgery Project of the Cleveland Clinic sought to improve the practice of surgery through sophisticated computer-based tools.

The USAMRMC supported a number of projects in a further application of telemedicine—improved emergency medical services—in FY 1998. The Advanced Trauma Care Project located at the Illinois Institute of Technology, Chicago, supported the development and prototyping of technology to aid diagnosis and treatment in trauma situations and disaster-relief efforts, including chemical and biological emergencies. The Life Support for Trauma and Transit Program, contracted to Northrop Grumman Corporation, was researching advanced life support and transport systems that rapidly diagnose, treat, and evacuate casualties in highly dispersed mobile forces. The Emergency Telemedicine Project at Mercy Health System, Bala Cynwyd, Pennsylvania, would develop, test, and validate an emergency telemedicine system. Funding for the National Medical Technology Testbed supported a cooperative research agreement with the Loma Linda University Medical Center in Loma Linda, California, to promote the application of defense and aerospace technology to health care delivery. The Defense Healthcare Information Assurance Program at the South Carolina–based Advanced Technology Institute addressed security aspects of telemedical service delivery.

For efficient response to possible animal-health disasters, the Army Veterinary Command (VETCOM) maintains clear communications with the DOD, the U.S. Armed Forces Institute of Pathology, the American Veterinary Medical Association, the U.S. Department of Agriculture (USDA), and the U.S. Public Health Service. In the event of an outbreak of a foreign animal disease, the VETCOM would provide assistance in line with a memorandum of understanding between the DOD, the General Services Administration, and the USDA. The command's initial aid could be an animal-disease

diagnostician to help confirm the existence of a disease or a defense veterinary support officer to assist other agencies.

The VETCOM established its five Special Medical Augmentation Response Teams-Veterinary (SMART-Vs) in FY 1998 as an additional emergency force. In the case of escalation of a disease outbreak, a SMART-V might deploy to function as a veterinary field investigation unit or as part of an animal-disease eradication organization. SMART-Vs respond to disasters or foreign animal-disease outbreaks in cooperation with local, state, and federal authorities or as required by the National Federal Response Plan. Each team consists of six veterinary services personnel. In the event of a major disaster, the most available team would deploy to assist local and state responders. The SMART-V mission consists primarily of assessing the need for additional veterinary support and providing for smooth integration of such support when it is required. The VETCOM plans for teams to deploy within twelve hours of notification.

The Army Dental Corps has used a variety of Army programs to increase both accession and retention of dentists in response to a projected shortage. The AMEDD's Health Professions Scholarship Program (HPSP) pays a dental student's educational expenses and provides a stipend for living expenses, as it does for students in other health professions. The dental student incurs an eight-year obligation, including active and reserve service. The active-duty potion of the obligation varies from three to four years, depending on the number of years of funding the student receives. Funding for 318 man-years would result in 79–80 graduates per year by 2001, approximately 80 percent of required Dental Corps accessions. The program sustains funding at this level through FY 2005. Twenty-six Dental Corps accessions in FY 1998 were HPSP recipients, with fifty HPSP seniors scheduled to graduate in June 1999. The Army projected the number of graduates to reach seventy-eight by FY 2001, eighty in each of the following three fiscal years, and seventy-eight again in FY 2005. Surplus HPSP money made possible the establishment of the Health Professions Loan Repayment Program (HPLRP) in FY 1998. The program pays $22,000 per year for up to four years of dental school to each HPLRP dentist's institution. As in the HPSP, the active-duty obligation associated with the HPLRP varies according to the number of years of payment. In the HPLRP's first year, five dental officers recruited in the summer of 1998 received twenty man-years of funding at $22,000 per year. Under the Dental Accession Bonus program, eligible individuals receive $30,000 grants upon initial obligation to the Army Dental Corps. The Dental Accession Bonus program has been funded for FY 1997 through FY 2002. It carries an active-duty service obligation of four years. Twenty-four out of thirty-six eligible accessions in FY 1998 (67 percent) chose to accept the dental-officer recruiting bonus. The Army offers graduating senior dental students the Advanced Program in General Dentistry, 1-Year, upon

commissioning in the Army Dental Corps. In FY 1998, the Dental Corps offered the program to thirty-two dental officers.

The Army is addressing dentist retention through another set of programs, awarding dental additional special pay, variable special pay, and board certification pay to eligible dental officers, commensurate with rank and period of commissioned Dental Corps service. Pay in all three categories increased under both the FY97 and FY98 Defense Authorization Bills. The FY98 Defense Authorization Bill authorized a Dental Officer Multiyear Retention Bonus for dental specialists who agreed to remain on active duty two to four years beyond any existing service obligation. In FY 1998, each of the armed services offered this bonus only to oral and maxillofacial surgeons. For FY 1999 (and programmed until FY 2005), the other services will offer the bonus to other dental specialists, but the Army continues to fund only oral and maxillofacial surgeons. Thirty out of fifty-five eligible oral and maxillofacial surgeons (55 percent) accepted the retention bonus, with twenty-five of those thirty (83 percent) signing a four-year contract. Dental officers in all ranks and promotion year groups enjoyed an increase in incentive pay. The combination of accession and retention efforts improved a projected Army Dental Corps end strength of 984 to an actual FY98 end strength of 1,015.

Army Chaplaincy

As Chaplain Corps strength has risen to pre-1991 levels and Army commitments worldwide have increased, the Army chaplaincy has continued to evolve. In FY 1998, the Office of the Chief of Chaplains (OCCH) published a new edition of AR 165-1, *Chaplain Activities in the United States Army*; two new Department of the Army pamphlets, DA Pamphlets 165-17, *Chaplain Personnel Management*, and 165-3, *Chaplain Training Strategy*; and a new Armed Forces hymnal. Along with these doctrinal and administrative publications, the OCCH published volume 7 of the Chaplain Corps history, *Encouraging Faith, Serving Soldiers: A History of the U.S. Army Chaplaincy, 1975–1995*, written by Chaplain (Col.) John W. Brinsfield, Jr. The OCCH significantly enhanced logistical support to the Chaplain Corps through its Information, Resource Management, and Logistics (IRML) Directorate, fielding the Muslim extender kit and the lay leader extender kit as supplements to the basic chaplains' supplies for faith groups that historically do not have religious support in most contingencies. The IRML Directorate also made chaplain kits more available.

The U.S. Army Chaplain Center and School (USACHCS) at Fort Jackson, South Carolina, revamped its training and doctrinal services to reflect changes in demand. The USACHCS reorganized the Training Directorate from three divisions to five: operations, training development,

officer training, enlisted training, and functional. The chaplain officer basic course became more battle-focused. The chaplain officer advanced course became the chaplain career course—the twenty-one–week course requiring a permanent change of station was replaced by eight weeks of temporary duty followed by Combined Arms Staff Support School at Fort Leavenworth, Kansas. The division and installation courses began training simultaneously, based on the Lieutenant Colonel/Colonel Critical Task List. In addition, the USACHCS realigned Advanced Individual Training increasing training time from 268 to 290 hours, with a shift of emphasis from administrative to religious support. The USACHCS Combat Development Directorate oversaw the integration of combat development with the Combat Training Centers, placement of combat development instructors at the Unit Ministry Team training conference and on the Senior and Reserve Advisory Councils, and the formal integration of the chaplaincy into Division advanced warfighting experiments.

Army Pay

Title 37, U.S. Code, section 1009, directs that monthly basic pay of servicemembers be adjusted upward, based on the General Schedule (GS) federal employees' pay increase calculated in accordance with the permanent statutory GS pay raise formula, regardless of whether later statutes modify the actual GS raise paid in any particular year. The pay increase for servicemembers, however, is not identical to the percentage increase in GS pay. Army pay raises derive from the increase in the Employment Cost Index (ECI) calculated by the Department of Labor's Bureau of Labor Statistics. The ECI measures annual percentage increases in wages for all private-sector employees, although it can be subdivided to measure increases in specific categories of such employees. The actual percentage increase in GS pay is not the percentage increase in the ECI over the period described; the applicable statute, Title 5, U.S. Code, section 5303(a), provides that the overall increase in federal GS pay will be 0.5 percent less than the percentage increase in the ECI. In FY 1998, the statutory formula yielded a 2.8 percent increase. The president's budget included this increase, which went on to become part of the final budget in the FY98 National Defense Authorization Act.

Army Housing

Barracks were the Army's number-one facilities priority in FY 1998. A tri-service survey in 1992 had shown a strong correlation between the quality of barracks life and soldiers' morale and intent to reenlist. In February 1994, the chief of staff, Army, accordingly approved new barracks

designs that incorporated the "one-plus-one" accommodation standard as part of the Whole Barracks Renewal Program. This standard, later adopted DOD-wide, prescribed one soldier per room with an area of 11 square meters, with two rooms sharing a bath and service area. Since adopting the one-plus-one standard, the Army has embarked on an aggressive and fully funded program to modernize barracks for permanent-party single soldiers at all installations. In FY 1998, the Army funded new or renovated barracks for more than twelve thousand soldiers. All newly renovated or constructed barracks are to be equipped with new furnishings.

Army and Air Force Exchange Service

During FY 1998, Army and Air Force Exchange Service payments made to the Army declined. The FY98 payment to the Army was $137 million, whereas the FY97 payment had been $145 million. The primary reason for the decrease, which was mainly in the Class VI (personal demand items) dividend, was the economic condition in Korea caused by the devaluation of the won. The AAFES also instituted some operational changes in FY 1998. The Marine Corps and the Naval Exchange Service Command chose the AAFES to be the combined service credit provider. The goal of this program is to substitute exchange credit cards for bankcards, which had cost the AAFES $22–$25 million per year in fees. Additionally, the AAFES instituted shopping online and merged its sales and merchandising directorates.

Command Information

In the spring of 1998, on behalf of the Army, the Office of the Chief of Public Affairs (OCPA), submitted a Silver Anvil nomination to the Public Relations Society of America's annual competition for the best public relations efforts of 1997. The OCPA entered "Digging Out after a Sex Scandal," which traced the Army's recovery from the sexual misconduct cases at Aberdeen Proving Ground and other posts. This entry won in the Crisis Communications category. Whereas the other fourteen Silver Anvil categories separate competition by genre (such as academic, industry, government, and charity), the Crisis Communications category is open to all genres, with only one Silver Anvil awarded.

The Public Affairs and Communications Media (PACM) career program for civilian public affairs employees continued in FY 1998 to upgrade training and to better employ a civilian force declining in numbers to cope with more numerous Army operational missions. The PACM annual planning board addressed the continuing issues of restoring life insurance coverage, income tax exclusion, and leave carryover as well as limited overtime benefits for

civilians volunteering to deploy to hazardous areas. The Department of the Army petitioned the DOD for relief on behalf of the OCPA, but the Office of Management and Budget rejected the request.

Under the PACM program, the OCPA also continued to rely on enhanced training to raise quality in order to offset quantitative losses. The OCPA discovered that fifty-six GS-9 civilians were in journeyman positions without having taken the public affairs officer basic course at the Department of Defense Information School, Fort Meade, Maryland. In many cases, local commanders had placed outside personnel who were facing reductions into public affairs positions. The chief of public affairs elected to use his own civilian training funds to send as many of these untrained public affairs officers as possible to the Fort Meade school. Eventually, sixteen attended the course under OCPA sponsorship, with four other officers' training funded by their own commands. This was the first time that public affairs civilians attended the public affairs officer course at the expense of Headquarters, Department of the Army, rather than at the expense of field commands.

Soldiers Radio and Television (SRTV) produced a variety of programming in FY 1998. The new *Army Healthwatch* newscast, a thirty-minute show on health, fitness, and preventive medicine topics, went out to forty-five continental U.S. medical treatment facilities for use in patient waiting rooms. In addition, SRTV distributed *Army Healthwatch* with its *Army Newswatch* program, enabling access by cable affiliates and post command information activities. The Army public affairs medical editor produced twenty-six video news releases as well as fifty-two radio news releases and promotional announcements during the year. Two thirty-minute *Washington Reports* were produced: One assisted the U.S. Army Physical Fitness School in informing soldiers about changes in the Army physical fitness test; the other, produced for the Office of the Surgeon General, explained the anthrax vaccine immunization program. Other SRTV programming added this year included *Contact*, a five-minute segment dealing with the problems of everyday life; *Do Yourself a Flavor*, sixty seconds of nutritional advice; *Profile America*, a daily program featuring facts and figures from around the country; and *The Car Show*, a daily two-minute program on car care featuring nationally known automotive maintenance experts.

The Public Affairs Proponent Activity (PAPA) develops doctrine, training programs, and materiel, and provides organizational and soldier support for Army public affairs activities. In FY 1998, the PAPA supplied public affairs training material based on new doctrine to support Land Information Warfare Activity courses for Army staff, commanders, and unit leaders. The PAPA reviewed and provided input for the Information Operations Total Requirements Analysis Program portion of WarSIM 2000, the developing battle-simulation modeling program. The analysis program will provide for media and public affairs presence in future simulations. The Public

Affairs Proponent Activity also produced and fielded two digitized training support packages: "Implement a Public Affairs Plan (Media Facilitation)" and "Participate in a Media Interview." These were the first training courses provided to align public affairs training across the Army.

The PAPA developed new mission training plans in FY 1998 for public affairs operations center, public affairs detachment, and mobile public affairs detachment Table of Organization and Equipment (TOE) units, replacing 1990 products. Mission training plans identify and elaborate on critical wartime missions in detailed training and evaluation outlines. They also provide exercises and other training through training management aids, which assist commanders in planning and executing unit training. In support of the Army's Change in Noncommissioned Officer Structure initiative, the PAPA standardized all public affairs assets in active- and reserve-component TOEs, increased public affairs positions in new Theater Army Area Command and Theater Support Command TOEs, eliminated discrepancies in divisional public affairs assets, started new grade tables for all public affairs (CMF [career management field] 46) soldiers, and designed a new CMF 46 career map. In addition, the PAPA began a manpower requirements criteria study that is scheduled for completion in FY 1999.

Army Public Affairs hosted a series of regional media trips to Bosnia. In 1998, more than seventy positive stories about soldiers in Operation JOINT FORGE resulted from the seven nine-day media trips sponsored by Army Public Affairs. Media markets included Dothan, Alabama; Colorado Springs, Colorado; Houston, Texas; the state of New Jersey; Sacramento, California; Salt Lake City, Utah; San Antonio, Texas; St. Louis, Missouri; and western Massachusetts; and Salt Lake City, Utah. On each trip four media members and an Army escort traveled via Air Force planes to Bosnia, where the Coalition Press Information Center matched media members with hometown soldiers.

Army Tuition Assistance Program

All soldiers—officers, warrant officers, and enlisted—on active duty, and Army National Guard and Army Reserve soldiers on active duty pursuant to Title 10 or Title 32, U.S. Code, are authorized to participate in the tuition assistance program. In FY 1998, the tuition assistance policy guaranteed every eligible soldier fifteen semester-hours per year (generally considered the equivalent of one semester's full course load) at three-fourths of tuition costs up to $60 per semester-hour for freshman- or sophomore-level courses, $85 per semester-hour for junior- or senior-level courses, and $170 per semester-hour for graduate-level courses. Tuition caps for soldiers stationed outside the continental United States were governed by rates negotiated in tri-service contracts. Using local funds, commanders had the authority to

augment local tuition assistance funds beyond the Department of the Army fifteen-semester-hour standard. The tuition assistance funding limit for noncredit courses not denominated in semester-hours was $1,300 per fiscal year. Soldiers were required to have an approved, documented degree plan or Servicemembers Opportunity Colleges Army Degree student agreement to receive tuition assistance beyond the nine-semester-hour level. In April 1998, the Army implemented an "upfront" Army tuition assistance policy that allowed soldiers to receive seventy-five percent of the cost of tuition for distance-learning courses at the time of enrollment. In the past, soldiers were reimbursed after successful completion of distance-learning courses. To qualify for upfront tuition assistance, soldiers are required to enroll in regionally or nationally accredited courses that are no more than twenty-four weeks long. Soldiers must also complete funded courses before leaving the installation where course enrollments occurred. The change from reimbursement to upfront funding assists soldiers financially and thus eases access to distance-learning courses.

Army Sports Program

FY 1998 was generally a successful year for Army sports teams. The U.S. Army Sports Program won twelve of the twenty-two contested Armed Forces championships in 1998. The Army boxing team won its ninth consecutive Armed Forces championship by winning ten of twelve bouts. The wrestling team took three gold medals, one bronze, and one fifth-place finish in the USA University Nationals, and regained its Armed Forces overall championship title. The women's basketball team won its seventh consecutive Armed Forces championship and placed six members on the Armed Forces team. The men's and women's bowling teams placed second, behind the Air Force. The men's and women's tae kwon do team won the Armed Forces fight-off by winning seven of the eight contested qualifying events. The women's volleyball team placed second, behind the Air Force team, and the men's team placed third, behind the Navy and Air Force. The men's and women's track-and-field teams won their seventh consecutive Armed Forces track-and-field championship. The men captured twenty-three of forty-seven medals; the women captured eighteen of thirty-eight medals.

The men's racquetball team won five of nine individual medals, including first-place finishes in all three of the age divisions; the women took three of the six individual medals (one gold, one silver, and one bronze). The triathlon team placed second at the Armed Forces championship, behind the Navy. The men's and women's softball teams finished second at the Armed Forces championships, both behind the Air Force. The golf team took third place honors at the Armed Forces championships, behind the Air Force

and Navy in first and second places, respectively. The men' s soccer team placed fourth. The Army team won the tennis championship by beating the Navy, with the Air Force placing third. The men's basketball team won the Armed Forces championship as well as the Supreme Headquarters Allied Powers Europe Tournament in Germany. The modern pentathlon team placed sixth at the *Conseil International du Sport Militaire* championships in Rome, Italy. Eleven soldiers represented the Army on the Armed Forces team-handball team, which won the national title at the USA Team Handball tournament in Atlanta, Georgia. The Armed Forces marathon team ran in the 22nd Marine Corps Marathon, and the Army contingent placed third, behind the Air Force and the Navy.

Construction, Facilities, and Real Property

Congress appropriated $706,477,000 in FY 1998 for the Military Construction, Army, program. The Army requested projects totaling $595 million, but Congress added $162 million. The president vetoed congressional additions totaling $75.8 million, which affected all projects not related to quality of life and readiness. The vetoed projects were restored on 25 February 1998, with MCA monies distributed as follows: environmental compliance, $7.4 million; Army Strategic Mobility Program, $91.4 million; Whole Barracks Renewal Program, $367.1 million; leadership initiatives, $20.0 million; critical mission, $14.6 million; revitalization, $140.9 million; unspecified minor MCA programs, $7.4 million; and planning and design, and host-nation support, $65.6 million. Revised economic assumptions led to a deduction of $7.9 million, for $706.5 million.

In FY 1998, there was continued funding in support of the Whole Barracks Renewal Program, with $248 million appropriated for facilities in the continental United States, $76.1 million for facilities in Korea, and $43 million for facilities in Europe. Congress added four projects, totaling $29.3 million. Funding continued for facilities in support of the Army Strategic Mobility Program, including the second phase of the Army's pre-positioned equipment mission overseas in Southwest Asia. Facilities to house the new close combat tactical trainer systems at Fort Carson, Colorado, and Fort Riley, Kansas, were also funded. Congress funded the revitalization of the Army's infrastructure at $140.9 million by adding 16 projects totaling $116.4 million. Projects included the first phase of the Missile Software Engineering Annex at Redstone Arsenal, Alabama; the first phase of the Force XXI Soldier Development Center, Fort Hood, Texas; the first phase of a military operations on urban terrain training facility at Fort Bragg, North Carolina; fire stations at Fort Monmouth, New Jersey, and Fort Leonard Wood, Missouri; a chapel at Fort Story, Virginia; two projects at Fort Drum, New York; and an ammunition demilitarization support project at Pine Bluff Arsenal.

Section 2906(d) of the Defense Base Realignment and Closure Act of 1990 provided for a special Treasury account to receive the proceeds collected from the disposal or transfer of real property or facilities acquired, constructed, or improved (in whole or in part) with NAF. By the end of FY 1998, the Army Base Realignment and Closure Office had transferred approximately $7.4 million to the special account for the reimbursement of the depreciated values of NAF investments in real property at Army BRAC installations. The remainder of the NAF investment at BRAC installations yet to be disposed of was approximately $27.8 million. The NAF losses totaled approximately $3.2 million as a direct result of no-cost conveyances.

The Army initiated a more aggressive Facilities Reduction Program (FRP) in FY 1998. Having disposed of 47 million square feet (msf) of excess space since the beginning of FY 1992 (largely through demolition), at the beginning of FY 1998, the Army still held approximately 104 msf, an amount that roughly equaled the combined building square footage of Forts Benning, Bliss, Bragg, Hood, Knox, Polk, and Sill. In FY 1998, the Army funded the FRP at $104 million. Disposals recorded by the end of the fiscal year totaled 10.7 msf, with disposal of an estimated additional 3.6 msf under contract but carried over to FY 1999; an additional 3.0 msf previously declared excess was returned to use. At the end of FY 1998, the Army's estimated excess space was 86.7 msf. The FRP has already reduced the real property management funding requirement by $400 million. The Army programmed $100 million per fiscal year for FY 2000 through FY 2003 to dispose of an additional 35.0 msf of excess space. State-owned National Guard facilities and facilities supported by Ammunition, Working Capital Fund, or DOD funds are not included in the FRP because of their source of funding.

Since 1991, the Army has had a program to privatize installation utility systems. The program focuses on the 265 systems serving sixty-seven major installations in the continental United States. On 1 May 1997, the chief of staff, Army, informed the commanders of major commands that owning and operating utility systems were not military core functions and that utility services could be obtained from local public and private utility companies at best value. As part of the Defense Reform Initiatives (DRIs), two directives—DRID 9 and DRID 49, issued on 10 December 1997 and 23 December 1998, respectively—required the military departments to privatize installation utility systems, except where it would be uneconomical or where unique security reasons prevented it. DRID 49 reset the DRID 9 goal for completing all utility privatization from 1 January 2000 to 30 September 2003. Title 10, U.S. Code, section 2688, authorized the armed services to transfer these systems to a municipal, district, regional, cooperative, or private utility company, and required competition where feasible and recovery of fair market value for the system. To meet the DRID timelines and the legislative

mandates, the Army developed strategies to streamline the procurement process, maximize marketability of the hundreds of utility systems subject to privatization, and capitalize on the economies of scale and buying power of the DOD. In 1998, the Army started a partnership with the Defense Energy Support Center to enhance contracting power by bundling multiple systems across major commands and military services within a geographic region into single acquisitions, rather than into a series of smaller discrete acquisitions.

8

Special Functions

Environmental Protection

In FY 1998, the Army environmental cleanup program completed its transition to decentralized execution, with major commands having responsibility for all program planning, budgeting, and execution of remediation activities at operating installations. Headquarters, Department of the Army, and the Army Environmental Center had previously managed these functions centrally.

By the end of that fiscal year, 10,204 potentially contaminated sites remained at 1,076 active installations. The Army has determined that 7,961 of these sites require no further action, except long-term monitoring. Remedial activities are planned or under way at the other 2,243 sites. The Army has completed construction of environmental remedies—removal, containment, or on-site treatment of contamination—at 844 sites. Sixty-six of these sites require remedial action operations: Remedies are in place, but cleanup objectives have not yet been achieved. In addition to these permanent remedies, the Army has completed 967 interim actions at 629 sites at active installations. The 405 sites that had been undergoing study or cleanup in FY 1998 were determined to require no further action. Eight installations, excluding U.S. Army Reserve Centers, achieved "remedy in place" or "response complete" status (that is, remedies constructed and remedial action operations were under way or complete, respectively) at all sites. The Army continued to refine its cost estimates for cleaning up its hazardous waste sites. Examination of cleanup assumptions and validation of data from ongoing cleanup sites in FY 1998 revealed a total projected completion cost of $7.9 billion: $6.5 billion for installation restoration at active installations and $1.4 billion for installation restoration at base realignment and closure (BRAC) installations, $1.2 billion less than the FY97 estimate.

In FY 1998, the Army greatly improved access to the data systems used to manage restoration activities at its installations. Historically, ensuring that Army installations, major commands, and headquarters all shared the same data has been a challenge. To address this problem, the Army moved its data collection system onto the World Wide Web. The Army also integrated the BRAC cleanup plan abstracts into this system so that

planning and data collection for active and BRAC installations resided on the same system. During the past year, the Army supported the initiatives of the Federal Remediation Technologies Roundtable (FRTR), a cooperative effort of federal agencies on environmental restoration requirements sponsored by the Environmental Protection Agency's (EPA's) Technology Innovation Office. In FY 1998, the U.S. Army Environmental Center made Web-accessible the FRTR-developed Restoration Technologies Screening Matrix and Guide, which provides guidance on identifying and selecting decontamination technologies. The Army Corps of Engineers Center of Expertise for Hazardous and Toxic Waste developed the homepage, as well as links for the FRTR Web site.

Remedial activities were in progress at most of the 112 installations being closed and at the 27 installations being realigned under the BRAC 1988, 1991, 1993, and 1995 rounds. By the end of FY 1998, the Army had identified 1,944 potentially contaminated sites at 117 BRAC installations. Of these sites, 1,032 required no further action, except long-term monitoring. Remedial activities were planned or under way at the remaining 912 sites. During the fiscal year, the Army completed construction of final remedies at 278 sites, 12 of which required remedial action operations. In FY 1998, studies followed by cleanups were completed at 134 BRAC sites, and these sites required no further action. Thirty-nine BRAC cleanup teams, including representatives from the Army, local governments, and the EPA, had been formed to expedite cleanup activities at installations where there was excess property. In FY 1998, the Army completed all environmental-baseline surveys for installations affected by the 1995 BRAC round. These surveys document physical conditions at the component properties of each installation in order to identify possible environmental concerns.

Acting as executive agent for the secretary of defense, the Army continues to develop a Department of Defense (DOD) firing-range rule covering responses for unexploded ordnance and other constituents of munitions at ranges subject to the BRAC process. During FY 1998, the Army received and summarized approximately 250 pages of public comments on the proposed range rule published in the *Federal Register* on 26 September 1997. As of the end of the fiscal year, the DOD expected to revise the range rule in response to these comments and to make the rule final by the summer of 2000.

In FY 1998, the Army expanded its independent technical review (ITR) program, which had begun as a pilot program at four BRAC installations in FY 1997. Each ITR involves a one- to two-week review of the technical, administrative, and managerial aspects of an installation's cleanup program by a panel of Army and non-Army experts. Advice emerging from the reviews ranged from specific remedies for individual cleanup sites to ideas on how to negotiate with regulators and local communities on controversial issues. Findings and recommendations arising from ITRs would not be final

until acceptance by the regulatory agencies and receipt of information and advice from the local community. In FY 1998, the Army conducted reviews at ten more BRAC installations and established the ITR program at two active installations. The BRAC ITR program produced savings at several installations—most prominently at Savanna Army Depot Activity, Illinois. There, the ITR recommended no further action at an old burning ground on a small island in the Mississippi River. A removal action with a life-cycle cost of approximately $68 million, including FY99 and FY00 costs of approximately $25 million, had been planned at the site. Based on the minimal evidence of unacceptable risk to human health or the environment, the ITR determined this action to be unnecessary. The BRAC installations reviewed through the program were together responsible for a $39 million reduction in BRAC work-plan requirements for FY 1999 and FY 2000, representing a thirty-to-one return on investment. As of the end of FY 1998, the Army planned to conduct ITRs at twelve BRAC installations and eight active installations in FY 1999.

The Army benefited from partnerships with regulators and local communities in reassessing planned groundwater treatment systems. At Twin Cities Army Ammunition Plant, New Brighton, Minnesota, several years of effort culminated in the signing of the installation-wide record of decision, the last environmental-remedy decision for the installation. The Army also recovered $3.9 million from the insurance company covering this government-owned, contractor-operated facility. These funds will be used for future cost-recovery efforts within the Army's cleanup program. In FY 1998, Schofield Barracks, Hawaii, completed construction at all remediation projects. The Army formally petitioned the EPA to delete Schofield Barracks from the National Priorities List (NPL, the "Superfund" list of urgent cleanup targets). At Fort Dix, New Jersey, the Army worked closely with EPA Region 2 and state regulators to obtain agreement on designating the NPL-listed landfill "construction complete." In FY 1999, the Army will seek to delete this installation from the NPL.

The Army also initiated an effort to optimize use of resources dedicated to operating and maintaining groundwater treatment systems. In FY 1998, the Army operated major groundwater pump-and-treat systems at thirty-five installations, with annual system operating costs totaling approximately $25 million. These systems extract contaminated groundwater through wells, treat it, and then discharge the treated water into surface waterways. The average construction cost for each pump-and-treat system was approximately $3 million; the systems have a design life of at least thirty years. In FY 1998, the Army began reassessing its most expensive groundwater-treatment systems to identify cases possibly warranting system improvements, closure, or substitution of alternative technologies. Any modifications would have to establish or meet treatment objectives, protect human health and the

environment, reduce long-term operations and maintenance requirements, and maximize the cost effectiveness of the remedy. It was believed that some existing pump-and-treat systems could be replaced with less costly in situ systems (eliminating the need for pumping) or supplemented through proven natural-attenuation processes. At Hunter Army Airfield in Georgia, the Army planned to recommend implementing a monitored natural-attenuation remedy (that is, keeping the site under surveillance as pollutants decay) as part of an initiative to reassess planned groundwater-treatment systems. If accepted by the environmental regulators and the local community, this recommendation could result in savings of $5 million. A separate study of existing and proposed groundwater-remediation systems at Riverbank Army Ammunition Plant, California, resulted in a 40 percent reduction in operating costs and in annual savings of $1.2 million. The Army has begun to reassess plans for almost seventy additional pump-and-treat systems.

In FY 1998, the Army held outreach meetings in five of the ten EPA regions. These forums brought together Army major command and headquarters managers and the region's EPA and state environmental regulators. The meetings covered program goals, budgeting, community involvement, innovative technologies, case studies, and regulatory issues. The Army hoped to have outreach meetings in the other five EPA regions in FY 1999. Partnerships with regulators and the community in FY 1998 produced substantial benefits for the Army's program. At Fort Wainwright, Alaska, for example, excellent relationships with regulators and coordination on the revision of the final operable unit's record of decision resulted in an expedited review of this document. At the Tobyhanna Army Depot, Pennsylvania, successful partnerships with the EPA and state regulators resulted in one closeout document for thirty-five sites requiring no further actions instead of the two documents originally planned. Partnership initiatives with EPA Region 4 and the Alabama Department of Environmental Management at Redstone Arsenal improved document-review time and resulted in more effective decision making.

The Army has continued to work with local communities, sharing cleanup program information and receiving information regarding project priority, sequence of project implementation, and funding allocation. The Army has learned that restoration advisory boards (RABs) can be effective tools for obtaining this community insight and advice. By the end of FY 1998, the Army had established sixty-four RABs. The Army evaluated community interest in establishing RABs at additional installations to ensure that it could fully benefit from community involvement in its cleanup program.

At BRAC installations, the Army worked with local communities and reuse authorities to transfer property. In FY 1998, the Army initiated the deletion from the NPL of a 37-acre parcel at the Army Research Laboratory in Watertown, Massachusetts. The deletion would greatly enhance the value

of the property transferred. The local reuse authority agreed to maintain the land-use controls implemented as part of the remedy at the installation. Land-use controls also enabled the Army to transfer a parcel with groundwater contamination at Letterkenny Army Depot, Pennsylvania. Local communities had been concerned about whether the controls would be maintained when the Army no longer occupied the BRAC installation. To allay these concerns, the Army issued an interim policy addressing how land-use controls would be documented and maintained after transfer of the property. This policy established a benchmark for similar DOD activities.

The Army Corps of Engineers was involved in a variety of interagency water-resources partnerships in FY 1998. The Flood Plain Management Services Program allowed the Corps of Engineers to help states, Native American tribes, and local governments develop plans and initiate actions to mitigate flood losses. FY98 funds were used to increase technical services to Native Americans and to give special emphasis to assisting federally recognized tribes with flood plain management planning on their lands. Responses to requests from communities, tribes, and individuals for flood-related information, interpretation, and guidance numbered forty-eight thousand during FY 1998 and involved property valued at $5.5 billion. The Section 22, or Planning Assistance to States, program helps state and tribe planners prepare comprehensive plans for conservation, development, and use of water. Under this program, the Corps of Engineers provides technical assistance and planning guidance for a full range of water-resources problems, including wetland identification, environmental restoration, water supply, water quality, and flood-damage reduction. The cost of the program is shared evenly with nonfederal sponsors. In FY 1998, the program matched $3,397,000 in nonfederal funds. Ninety-four studies were performed for thirty-seven states, as well as ten studies for Native American tribes. The Clean Water Action Plan initiative focuses public and private attention on improving water quality and restoring watershed health. Federal agencies, together with states, tribes, and local partners, are implementing more than one hundred action items. Accomplishments for FY 1998 included the development of watershed assessments and restoration strategies in all fifty states and on some tribal lands. The Corps' involvement in the Clean Water Action Plan National Steering Committee and in the field provided a mechanism for technical assistance and for identifying potential projects to further restoration goals developed at state and local levels. The Corps also provided technical and policy advice to interagency partners, working with other agencies to develop and recommend new strategies to address state, tribal, and local needs.

The American Heritage Rivers Initiative (AHRI) is another partnership of the Corps of Engineers with other agencies. Executive Order 13061 (11 September 1997) directed implementation of this initiative and created the

AHRI Interagency Committee comprising the heads of twelve departments and agencies, including the DOD, for which the Corps of Engineers served as executive agent. The AHRI focuses on developing long-term goals and innovative solutions to clean up rivers, to rejuvenate the communities and areas that surround the rivers, and to stimulate economic growth and sustainable development in those communities. As of the end of FY 1998, there are fourteen designated American Heritage Rivers. Each river has a river navigator whose role is to bring federal governmental services to the local level. The Corps of Engineers provided navigators for the New River, which runs through North Carolina, Virginia, and West Virginia, and for the upper Mississippi River from its headwaters to the Missouri River. Each of these navigators would work with the river partnerships to develop and implement work plans reflecting the river communities' and states' desires and goals for restoration, preservation, and economic revitalization of the rivers and their related resources.

The Corps of Engineers developed several other interagency environmental partnerships during FY 1998. The Corps and the Department of the Interior began to explore cooperative means for restoring abandoned mine sites on federal lands. The collaboration progressed with the acid mine drainage programs and the Appalachian Clean Streams Initiative, both of which demonstrated the Corps' commitment to environmental restoration. The Corps of Engineers and the EPA sustained a partnership for economic recovery of "brownfield" (polluted) sites and began to explore the possibility of applying Corps planning and technical assistance in the study of potential reuse of Superfund sites before remediation decisions are made. The Corps continued its involvement in the Coastal America initiatives at the national, regional, and local levels, developing and implementing numerous environmental restoration projects.

The Army National Guard (ARNG) environmental plan focuses on four major areas: compliance, restoration, pollution prevention, and conservation. During FY 1998, the ARNG's compliance program concentrated on reducing release of pollutants through source reduction, recycling, treatment, and disposal. The Guard reduced by 340 the number of underground storage tanks not meeting the pending standard of Subtitle I of the Resource, Conservation, and Recovery Act of 1976. New EPA regulations implementing Subtitle I specify that, by 22 December 1998, all underground petroleum and hazardous substance underground storage tank systems installed before 22 December 1988 must meet certain requirements for protection against spills, overfilling, and corrosion. The ARNG also managed projects to upgrade vehicle wash racks at 25 facilities, to construct hazardous waste storage facilities at 43 locations, to construct portable or fixed spill containment structures and devices at 253 locations, and to install oil–water separators at 44 locations. These efforts reduced by 16 percent the

open notices of EPA regulatory violations at ARNG facilities, and reduced new notices of violation by 36 percent over FY 1997. The ARNG's FY98 environmental program also included enhanced compliance with the Clean Air Act. The ARNG evaluated strategies to implement its part of the Clean Air Act inspection and maintenance program to ensure that all government- and privately owned vehicles being operated on federal installations complied with local vehicle emissions requirements. In FY 1998, the ARNG entered into a partnership with the active component to expand the capabilities of its Windows Compliance Assessment and Sustainment Software. This software provides an automated method for installation commanders to identify compliance problems, develop corrective action plans and cost estimates, conduct root-cause and trend analyses, and track progress. The Army has adopted this software as its official environmental assessment tool.

The ARNG evaluated sites for past contamination and conducted cleanup operations where necessary. In FY 1998, the ARNG expended more than $36 million in Environmental Restoration, Army, funds and more than $4.4 million in operation and maintenance funds. The cleanup at the Massachusetts Military Reservation on Cape Cod was the ARNG's largest cleanup project, with FY98 Environmental Restoration, Army, funding of more than $29 million. During the fiscal year, the ARNG Restoration Program completed fourteen preliminary assessments to determine the potential for contamination sources and eight site inspections to determine the actual presence of contamination. Ongoing projects in FY 1998 included four preliminary assessments, four site inspections, fourteen remedial investigations, and twenty-two remedial actions. In addition, the state ARNG environmental offices had restoration actions either ongoing or proposed at 223 state-owned sites. The state environmental offices were responsible for tracking and executing the ARNG restoration program at state-owned facilities.

The ARNG completed $5.4 million in pollution-prevention projects in FY 1998. These projects included pollution-prevention plans and opportunity assessments, along with the purchase of antipollution equipment, such as aqueous-based parts washers, to reduce the need for hazardous solvents, antifreeze recyclers, and oil filter crushers. Through these efforts, the ARNG continued to exceed DOD goals for reduced generation of hazardous waste. During FY 1998, two environmental impact statements (for Multipurpose Range Complex-Heavy [Camp Shelby, Mississippi] and the Multipurpose Training Range [Camp Atterbury, Indiana]) were completed with published records of decision. In addition, the ARNG completed two programmatic environmental assessments documenting the environmental impact of fielding the Paladin self-propelled howitzer system to nine states. Twenty-six environmental assessments were completed during FY 1998, supporting fourteen construction projects, eight equipment fieldings, and four training

exercises. In August 1998, soldiers of the 1st Battalion, 297th Infantry (Scout), Alaska ARNG, tested 5.56-mm "green" ammunition, featuring a bullet with a tungsten-tin core considered environmentally safer than the usual lead alloy. Such ammunition would therefore allow ARNG units to train in Alaska's environmentally sensitive locations.

Major ARNG conservation projects completed in FY 1998 included 24 statewide pest management plans, wetland inventories covering 250,000 acres on ten installations, and eight integrated natural resource management plans. Inventories of archaeological and historic properties were completed in all fifty-four states and territories. Nine states with training sites that participated in the forestry, grazing, and agricultural outleasing programs received reimbursements totaling $1.2 million.

Small and Disadvantaged Business Utilization

The Army small business program exceeded the goals assigned by the DOD for prime contracts awarded to small and small disadvantaged businesses. Of the Army's total procurement funds (more than $7.4 billion), 28.1 percent was awarded to small businesses in FY 1998. Small disadvantaged businesses received $2.5 billion, or 9.5 percent of total Army procurement expenditure. Additionally, historically black colleges and universities and other minority institutions received $24.0 million in contracts. The Army also surpassed all previous records set for awards to women-owned small businesses, awarding them approximately $860 million, or 3.2 percent of total contract awards. Of $3.3 billion in FY 1998 Army funds subcontracted by prime contractors, $1.9 billion was awarded to small businesses under the Small Business Subcontracting Program. Small disadvantaged businesses received $297 million, and women-owned small business firms received $218 million. For comparison, of the $2.5 billion subcontracted by Army prime contractors, $1.7 billion was awarded to small businesses in FY 1997. Of that amount, $260 million was awarded to small disadvantaged businesses, and $211 million went to women-owned small businesses.

One initiative that has contributed to the success of the Army's small business subcontracting program is the DOD pilot Mentor–Protégé Program, in which the Army is a major participant. This program encourages DOD prime contractors (mentors) to develop the technical and business capabilities of small disadvantaged businesses and other eligible protégés, enabling the protégés to expand their business base within the DOD marketplace. The firms represented in the Mentor–Protégé Program encompass a broad range of industries, including environmental remediation, manufacturing, telecommunications, and health care. So far, the Army has approved thirty-three mentor–protégé agreements as part of the DOD program.

A unique aspect of the Army mentor–protégé program is the 8(a) Graduate Pilot Mentor-Protégé Program, "8(a)" referring to a section of the Small Business Act promoting the development of small disadvantaged businesses. This "pilot within a pilot" program gets firms that have graduated from the Small Business Administration's 8(a) program involved in mentoring emerging 8(a) firms. The Army has been granted a waiver to allow up to ten 8(a) graduates who are Army contractors but who do not have an active subcontracting plan to participate. The Army has already approved six mentor–protégé agreements under this new initiative, ranking first among the armed services in total percentage of procurement funds awarded in the program.

Legal Affairs

During FY 1998, there were 685 completed trials by general courts-martial, 273 by special courts-martial empowered to impose a bad conduct discharge, and 14 by ordinary special courts-martial. In addition, there were 489 trials by summary courts-martial. Overall, the FY 1998 court-martial rate was 2.01 per thousand soldiers, down from 2.24 per thousand in FY 1997. The number of nonjudicial punishments imposed during this same time totaled 41,447, for a rate of 85.60 per thousand soldiers, up from 82.21 per thousand in FY 1997. During FY 1998, the clerk of court for the U.S. Army Court of Criminal Appeals received 771 new cases for appellate review. The court decided 783 cases for all of FY 1998.

The Army keeps its military justice procedures up-to-date through its representation on the Joint Service Committee on Military Justice (JSC). The JSC completed its fourteenth annual review of the Manual for Courts-Martial in FY 1998. This review was published in the *Federal Register* for public comment, and a public meeting was held to receive comments from interested parties. The JSC proposed rules for the issue of a new category of protective orders preventing the parties and witnesses from making out-of-court statements when there is a substantial likelihood of material prejudice to a fair trial. The committee offered clarification to the manual's language concerning which convictions are admissible on sentencing. The National Defense Authorization Act for FY 1998 amended the Universal Code of Military Justice to authorize courts-martial to impose a sentence of confinement for life without eligibility for parole for any offense previously carrying a punishment of confinement for life. The JSC proposed changes to the existing rules, discussion, and punitive articles referring to sentences of confinement for life to include the new sentencing option. The committee also proposed updating all model specifications by removing references to the twentieth century from dates of offenses. In addition to reviewing the Manual for Courts-Martial, the JSC recommended legislation amending

Article 111 of the Universal Code of Military Justice to provide a blood or breath alcohol concentration of 0.08 grams or more per 100 milliliters of blood or 210 liters of breath as a per se standard of illegal intoxication for drunken operation of a vehicle, vessel, or aircraft. The committee also completed its review of the new DOD policy prohibiting hazing, recommending that the DOD implement the policy by service directive rather than by changes to the Manual for Courts-Martial or the Universal Code of Military Justice. The DOD general counsel endorsed that recommendation and forwarded it to the individual services.

The Army had more than thirteen hundred active cases involving general and tort litigation in FY 1998. This represented a slight decrease in total cases following several years of significant increases. Despite the military drawdown, the tort-litigation branch of the Office of the Judge Advocate General maintained a caseload of more than 500 open cases. By the end of FY 1998, the Army's procurement-fraud caseload was approximately 650 active cases, with the influx of new cases remaining relatively steady. *Qui tam* cases, those brought by individuals on behalf of the United States, were approximately one-tenth of total cases. During the year, civil, criminal, and administrative recoveries, including judgments entered but under appeal, exceeded $167 million.

During FY 1998, the Army suspended 48 and debarred 121 poorly performing, fraudulent, or unethical contractors. The rate of suspensions and debarments has remained consistent over the past three fiscal years. Contractors suspended or debarred by the Army are excluded from all procurement and nonprocurement activities throughout the executive branch. When suspension or debarment is not essential to protect the government's interests, the Army may enter into an administrative settlement agreement, which allows contractors to continue to do business with the government while providing assurances that the contractor will conduct itself with the highest degree of integrity. These agreements require contractors who have demonstrated a lack of business integrity or honesty to implement an extensive ethics program. The Army usually requires the appointment of an independent ombudsman to help the Army monitor the contractor's compliance. In FY 1998, the Army was monitoring 67 contractors for compliance with administrative settlement agreements.

The rate of Army-related appeals filed with the Armed Services Board of Contract Appeals declined slightly, from 174 new case filings in FY 1997 to 153 in FY 1998. The funds involved remained substantial, however, with the 236 active cases representing $408 million. One case in particular, an appeal filed by Defense Systems Company, involved a $72 million claim against the government for alleged deficiencies in the technical data package it provided for the company's production of the Hydra 70 rocket. Although the number of appeals arising in Europe appeared to be disproportionately high (31 of

236 total active appeals), nearly half of them related to contracts induced by fraud rather than other forms of contract dispute. Based on a recent decision by the Armed Services Board of Contract Appeals that contracts induced by fraud are inherently void, the Army anticipated dismissal of these cases, thereby significantly decreasing the number of active appeals on the European docket.

Army attorneys assisted the Army leadership in developing a new fraternization policy. This work furthers implementation of the secretary of defense's directive prohibiting personal or economic relationships between officers and enlisted personnel. Behavior prohibited by the policy includes dating, sharing of living accommodations, engaging in intimate or sexual relations, conducting joint business enterprises, making commercial solicitations, gambling, and borrowing. The new policy would not affect existing marriages.

Operational law issues persisted in Bosnia in FY 1998. Army lawyers worked with the DOD and the State Department on agreements covering Stabilization Forces (SFOR) activities throughout Bosnia and Croatia, on legal issues arising from continued enforcement of the military provisions of the Dayton Peace Accords of 1995, and on efforts to provide a secure environment for implementation of the civil aspects of the accords. Since June 1998, when the 1st Cavalry Division assumed responsibility for the Task Force EAGLE mission, diplomatic and legal considerations have predominated in decisions on the use of military force from tactical through strategic levels. As a result, Task Force EAGLE judge advocates have joined an information operations working group along with the civil affairs, psychological operations, and public affairs personnel usually associated with information operations. The Task Force EAGLE legal office solidified its role in the information operations working group when judge-advocate legal analysis of an SFOR-directed weapons seizure operation conducted in response to treaty noncompliance provided clearly articulated arguments that became the basis for an information operation. The information disseminated persuaded the local populace and key decision makers to accept the actions of the peace operations force. Because of the success of this operation, the lawyers' role in peace operations expanded.

Increasing use of mediation- and arbitration-based alternate dispute resolution methods had a substantial impact on the Army equal-employment-opportunity complaint system in FY 1998. The number of precomplaint contacts made by Army civilians for alleged discrimination based on race, color, religion, sex, national origin, age, or disability increased by more than 250, whereas the number of subsequent formal complaints decreased by more than 100. Within the higher number of precomplaint contacts, the proportion of those in which alternate dispute resolution was applied more than doubled, which led in turn to reduction in the number of formal

complaints filed. Army attorneys worked with specialists at Headquarters, Department of the Army, and the DOD to develop an Army-wide, civilian and military alternate dispute resolution program.

The Army Claims Service and more than one hundred field claims offices pay soldiers and other government personnel for loss and damage of personal property incurred incident to service. During FY 1998, the Army paid $39.2 million to settle 57,366 such personnel claims. The FY98 figures represented $3.4 million less in compensation and 2,963 fewer claims than in FY 1997. The downward trend in personnel claims, which resulted from the reduction of forces, is expected to level out as the Army end strength stabilizes. When claims are related to transportation of personal property, the Army Claims Service aggressively pursues recovery from the carriers responsible for the loss and damage; funds recovered are reinvested to pay future claims. In FY 1998, Army claims personnel recovered $19.4 million from carriers, an increase of $800,000 over FY 1997.

The Army's Affirmative Claims Program has been extremely successful in recovering the costs of medical care, lost wages, and property damage incurred as a result of the negligence of third parties. In FY 1998, claims offices recovered $11.8 million in medical care claims from third parties, $8.0 million of which was reinvested directly in the military hospitals in which the injured soldiers were treated. In FY 1998, claims offices collected more than $70,000 in lost wages from negligent third parties, all of which was returned directly to the injured soldiers' units. Claims offices recovered $2.2 million for the cost of military property damaged by the negligence of third parties, $1.6 million of which was returned directly to the installations where the damage occurred.

In FY 1998, the Army Claims Service and field claims offices settled 6,594 tort claims worldwide for $31.9 million, a decline of approximately $10 million from FY 1997. These payments included personal injury and death claims, as well as property damage, environmental, and operational claims. The Army Claims Service pays environmental damage claims for military facilities overseas that have been closed and returned to host-nation authorities. A number of the 670 European military sites either closed or scheduled to close have the potential to generate significant environmental damage claims against the Army. The Army Corps of Engineers has estimated U.S. liability for these sites to be in excess of $500 million. The Army Claims Service paid $12 million for environmental damage claims in Europe in FY 1998.

Military personnel of the 2d Infantry Division and other U.S. Army elements suffered great personal property damage in early August 1998, when the northern part of the Republic of Korea experienced its worst flooding in forty years. Within twenty-four hours, the U.S. Armed Forces Claims Service-Korea dispatched a team of three claims investigators to the

most heavily damaged areas. The Claims Service then posted its personnel to the affected areas to support the local Judge Advocate General Corps (JAGC) offices. Within forty-eight hours of the initial flooding, JAGC personnel were paying on-the-spot cash advances to U.S. soldiers. During the next few weeks, JAGC personnel adjudicated 1,165 claims and paid in excess of $1.1 million to deserving military claimants. In spite of the difficult conditions, the average time from claim to payment was only seven days.

Inspector General Activities

The mission of the inspector general and the U.S. Army Inspector General Agency is to inquire into the state of discipline, efficiency, economy, morale, training, and readiness throughout the Army. During FY 1998, the Inspector General Agency Assistance Division handled 1,854 Inspector General Action Requests (IGARs), compared with 2,383 IGARs in FY 1997. Of the 1,854 requests, 1,181 (64 percent) were requests for assistance and 673 (36 percent) were allegations. Of the 673 allegations, 148 (22 percent) were substantiated, 477 (71 percent) were nonsubstantiated, and 48 (7 percent) were neither substantiated nor nonsubstantiated. Referral from the DOD Hotline accounted for 501 Army IGARs. DOD whistleblower IGARs decreased to a total of forty-four for FY 1998, compared with one hundred requests in FY 1997. The IGARs received in FY 1998 came from a variety of sources: 16 requests were presidential (a significant decrease from 64 in FY 1997), 89 congressional (down from 130 in FY 1997), and 49 from senior Army and DOD leadership (down from 85 in FY 1997). The active component accounted for 631 (34 percent) of the complainants. There were 131 (7 percent) reserve-component complainants and 366 (20 percent) civilian complainants; the affiliation of 726 complainants, 39 percent of the total number of IGARs, was unknown.

Six functional categories accounted for 80 percent of the IGARs in FY 1998. Personal conduct, which includes sexual harassment, racial discrimination, and nonsupport, was the cause for 528 requests, 28 percent of the total. Command/management of organizations, a category that includes care for soldiers and family members, storage and shipment of property, and exercise of command influence, led to 385 requests, or 21 percent of FY98 IGARs. Personnel management–military, a category that includes recruiting operations, reassignments, evaluation reports, promotions, separations, awards, and decorations, accounted for 242, or 13 percent, of total action requests. Personnel management–civilian, which includes management–employee relations, recruitment and placement, and promotions and awards, led to 154, or 8 percent, of the total number of FY98 IGARs. Finance and accounting, involving military base pay, allowances, retiree pay, travel pay, and nonsupport assistance, gave rise to

109 action requests, or 6 percent of the total. Acquisition, including policies and procedures, contract administration and surveillance, and competition, accounted for 73 requests, or 4 percent of FY98 IGARs.

In FY 1998, the Inspector General Agency's Inspections Division conducted numerous planned inspections to address a broad spectrum of force-readiness and resource-management issues. The division also performed assessments of issues that prompted the immediate concern of the Army Secretariat and the Army Staff. Among the division's high-visibility inspections and assessments were the Task Force on Extremist Activity: Defending American Values, Phase II (reserve component and Department of the Army civilians); and a follow-up assessment of the U.S. Army School of the Americas, done in response to a DOD inspector general evaluation report. Other inspections and assessments completed or in progress in FY 1998 concerned weapons and munitions security and accountability, basic combat training and one-station unit training, the government travel card program, high-intensity training, the Combat Training Centers, the Army and Air Force Exchange Service, the Army Career and Alumni Program, the Voting Assistance Program, and armed forces recreation centers.

The Technical Inspections Division conducted numerous compliance-oriented inspections of Army organizations with nuclear- or chemical-surety missions during FY 1998. The division inspected the surety compliance of 8 chemical-agent storage sites, 3 chemical-agent demilitarization facilities, 6 civilian contract chemical-defense laboratories, 1 chemical-defense research laboratory, the Army Technical Escort Unit, the Defense Ammunition Center, the Chemical Decontamination Training Facility, and the Army Materiel Command headquarters. The Technical Inspections Division also conducted a special inspection of command-and-control structures at Army chemical storage and demilitarization sites.

The Intelligence Oversight Division focused on its mission of inspecting sensitive activities, especially special-access programs, and military intelligence activities. Inspections examined financial, contract, security, and acquisition management; compliance with Army Regulation 381-10, *U.S. Army Intelligence Activities*; and the secretary of the Army's related areas of interest: financial management, property accountability, use of government credit card programs, and control of communications resources. At the request of the deputy chief of staff for intelligence, the division maintained its role of assisting in the assessment of compliance with procedures governing the control of foreign liaison officers. In response to the Army general counsel's request, the division continued to spot-check military intelligence support to law enforcement (especially drug enforcement operations) in conjunction with scheduled intelligence oversight inspections. The division assisted the Army's sensitive-activities review, resulting in the identification and planned inspection of additional sensitive activities within the Army. Finally, the

Intelligence Oversight Division worked to improve the Army's declared material weakness in training for oversight of intelligence activities.

The Investigations Division investigated allegations of misconduct against general officers, senior executive service civilian employees, and other officials in high-visibility positions. During FY 1998, the division received 726 allegations and completed 76 formal investigations and 120 preliminary inquiries. Of the allegations formally investigated, approximately 8 percent were substantiated, with abuse of authority being the allegation most frequently received.

The Army and Arms Control

The Army plays a key role in the nation's arms-control effort. The service provides policy analysis and recommends positions on all Presidential Review Directives on nonproliferation, ballistic missile defense, chemical and biological arms control, and export controls. The Army serves as the DOD executive agent for implementation of the Chemical Weapons Convention, and it plays a major role in implementing the Conventional Forces in Europe Treaty. The Army participates in cooperative threat-reduction efforts undertaken by the United States and the nations of the former Soviet Union. The Army Staff reviews arms-control strategies and analyzes U.S. government positions in many negotiating forums, including the Organization for Security and Cooperation in Europe, the Open Skies Consultative Commission, the Organization for the Prohibition of Chemical Weapons (OPCW), the Biological Weapons Convention Ad Hoc Group, the Conference on Disarmament, and the Anti-Ballistic Missile Treaty Standing Consultative Commission.

In FY 1998, the U.S. Army was fully engaged in implementing the Chemical Weapons Convention: destroying former chemical weapons production facilities and providing support for inspections and visits at all declared Army facilities. The project manager for the disposal of chemical stockpiles supervised the destruction of 96,707 munitions, containing more than 1,373 metric tons of chemical agents, from the active inventory. These destruction operations (conducted at the Johnston Atoll Chemical Agent Disposal System; the Tooele Chemical Agent Disposal Facility; and the Chemical Agent Munitions Disposal System [CAMDS] at Oquirrh Mountain, Utah) were verified by the continuous presence of inspection teams from the OPCW.

The project manager for non-stockpile chemical materiel (PM-NSCM) oversaw the destruction of obsolete and withdrawn chemical munitions, chemical-agent test kits, former chemical weapons production buildings, and other items outside the active chemical weapons inventory. OPCW inspection teams verified the destruction of 195,648 M987 binary nerve-

agent projectiles at Hawthorne Army Depot, Nevada; 408 Chemical Weapons Convention Category 3 (riot-agent) weapons at Pine Bluff Chemical Activity, Arkansas; and 11,368 Category 3 chemical weapons at the CAMDS. The Army also facilitated initial visits by the OPCW in preparation for planned destruction operations at Dugway Proving Ground, Utah, using the PM-NSCM Munitions Management Device-1 and at Aberdeen Proving Ground, Maryland, using the prototype Detonation Test and Destruction Facility.

The PM-NSCM was also responsible for destruction of all declared chemical weapon production facilities, including their buildings and equipment. In 1998, 6 buildings at Aberdeen Proving Ground, 1 building at the production facility for VX nerve agent in Newport, Indiana, and 33 pieces of equipment from the Marquardt chemical weapon production facility at Pine Bluff, Arkansas, were destroyed. OPCW inspection teams verified all of these destruction operations. In anticipation of future destruction of chemical weapon production facilities, detailed destruction plans for the mustard gas production facility at Rocky Mountain Arsenal in Commerce City, Colorado, and the Pine Bluff production facility for BZ incapacitating agent were submitted to the OPCW. The Army further supported OPCW inspections of all declared chemical weapons storage, chemical weapon production, and Schedule 1 (chemical warfare agent) facilities in 1998, which included inspection of 13 storage facilities at 10 Army installations, 19 inspections of chemical weapon production facilities at 4 Army installations and 1 contractor location (Swannanoa, North Carolina), and 2 inspections of Schedule 1 facilities at 2 Army installations. The Army Depot Activity commanders and their staffs facilitated all of these inspections.

The Corps of Engineers has conducted several projects with the governments of the former Soviet Union, as part of the Cooperative Threat Reduction Program, which seeks to control and reduce the former-Soviet inventory of weapons of mass destruction. At the request of the Defense Special Weapons Agency, the Cold Regions Research and Engineering Laboratory (CRREL) was provided $1.9 million to develop an information analysis system for mitigating the consequences of potential nuclear accidents in support of the Russian Ministry of Defense. On 17 March 1998, the CRREL began fielding the system in Russia. The system provides data-processing, geographic information systems, and communication equipment to assist Russian Ministry of Defense personnel responding to nuclear accidents. The system includes both computer hardware and software. The project, including on-site training in vibro-acoustic analysis and geographic information systems, has been completed.

The Corps of Engineers also has been assisting the Russian government in designing and building the Russian Fissile Material Storage Facility at Mayak. Russia and the United States jointly fund the project, which the Russians designed with U.S. assistance. The $742.6 million facility will be

able to store fissile material removed from 12,500 warheads in fifty thousand special containers manufactured in the United States and placed in vertical tubes encased in concrete. The storage building, planned to be safe and secure, will be 215 feet long and 204 feet wide, with a roof 25 feet thick and outer walls 22 feet thick and 52 feet high. Through FY 1997, Congress had committed $165 million for design, construction, and equipment. FY98 funding may not be released until April 1999; Congress is first seeking a signed agreement between the DOD and the Ministry for Atomic Energy of the Russian Federation addressing the total U.S. funding contribution for this project.

By the end of FY 1998, design of the Fissile Material Storage Facility was 85 percent complete and construction was 35 percent complete. The Corps of Engineers Transatlantic Programs Center, Winchester, Virginia, awarded a design and construction contract to Bechtel National in March 1996 to implement U.S. assistance. The majority of the American effort centered on construction of the main storage building and eleven support buildings, together with procurement of specialized U.S. equipment. Bechtel has subcontracted with the Russians for design and construction. Work continues on the main storage building's exterior walls and roof, the interior walls in the receiving area, and the support structures for the fissile material nests. In April 1998, the Russians determined that they would not be able to fund their remaining share of the project. This resulted in the United States agreeing to pay for completion of only phase I (total U.S. and Russian cost of $513 million) and agreeing to provide another $129 million to bring the total U.S. contribution to $412.6 million. Two additional years were added to the project's duration to allow the United States to obtain funding for the additional requirement. At the end of FY 1998, the completion of this 25,344-container main storage facility (phase I) was thus expected by February 2002. A decision to construct phase II, which would roughly double the storage capacity, was expected by 2000. If constructed, completion of phase II would be expected by July 2006, at a cost of approximately $229.6 million.

The Corps of Engineers also has been assisting the Russian government in chemical weapons disposal projects. The $693 million chemical weapons destruction facility (CWDF) in Shchuch'ye, Russia, will neutralize chemical nerve agents, the predominant type of chemical agent in Russia. U.S. technology for chemical agent destruction involves incineration, but the Russians rejected incineration for environmental and political reasons in favor of a two-step neutralization–bituminization process—that is, conversion of the agents to a chemically inactive substance in a pitch-like matrix. The U.S. Army Engineering and Support Center at Huntsville, Alabama, awarded an engineering management support contract for the CWDF on 5 December 1996 to R. M. Parsons, Inc. The project site selection was made on 11 July 1998. At the close of FY 1998, the facility design was 33 percent complete.

The process was slowed by the site selection efforts and by Russian delays in providing ammunition specifications (length, width, metal thickness, and other parameters) needed to design the automated line for drilling into and draining the contents from the chemical munitions. In addition, U.S. and Russian scientists recently completed development of a procedure to neutralize the nerve agents on an industrial scale. A completion date of June 2006 has been established for construction of the CWDF.

The $34.5-million Central Analytical Laboratory (CAL) project, in Moscow, involves renovation of an existing facility previously used to create nerve agents. The CAL will analyze samples, be responsible for developing analytical and monitoring procedures at chemical agent destruction and storage facilities, assist with training of personnel at destruction and storage sites, and serve as a quality control center for environmental monitoring during storage and destruction. On 16 October 1996, the Corps of Engineers awarded to Contrack International, Inc., a contract to design and build the CAL. The contractor completed the design by January 1998. As of the end of FY 1998, the renovation was 8 percent complete.

Support to Civilian Agencies

The Army responded to more than twenty-five requests for support from civilian authorities by providing more than 2,100 active-component soldiers and Army civilians, along with 18,450 members of the reserve component. The Headquarters, Department of the Army, director of military support (DOMS) coordinated Army and joint support for these emergencies and special events. In the aftermath of Hurricanes Bonnie, Charley, Danielle, Georges, and Mitch, the Army took part in relief efforts in Central America, Puerto Rico, and the Virgin Islands, and the continental United States. The Army provided the most extensive domestic support following Hurricane Georges, which caused considerable damage in the Gulf Coast states, Puerto Rico, and the Virgin Islands. That relief effort involved 8,300 Army personnel. The Army also assisted relief efforts during northeastern U.S. ice storms in January 1998, with about 4,600 soldiers and civilians taking part. Earlier in the fiscal year, 650 Army personnel engaged in relief efforts after Typhoon Paka struck Guam and the Northern Mariana Islands.

Throughout FY 1998, the Army provided Domestic Preparedness Program (DPP) training to cities across the country. The DPP, created to comply with the 1996 Defense Against Weapons of Mass Destruction (WMD) Act, prepares U.S. cities to respond following catastrophic incidents caused by WMD. The secretary of defense designated the secretary of the Army as executive agent for the DPP; the assistant secretary of defense for special operations and low-intensity conflict gained responsibility for DOD WMD domestic preparedness policy matters, and exercised

oversight of the DPP budget. The DOMS served as the staff action agent, and the commander of the Soldier and Biological Chemical Command was the program director. The DPP provided for Army support of initial training visits to each participant city, and a train-the-trainer session focused on each city's first responders: hazardous material, firefighting, law enforcement, and emergency medical service personnel. Tabletop and practical exercises further reinforced training, and a training equipment package was loaned to each city for subsequent training use. By the end of FY 1998, approximately 10,160 first responders in thirty-two cities had received DPP training.

In FY 1997, the secretary of the Army was made the DOD executive agent for management and coordination of support to U.S.-hosted international sporting competitions and other designated special events. The DOMS serves as action agent for this mission. In FY 1998, the first full year of Army responsibility for the DOD special events mission, the Army provided support for the Goodwill Games, the Nike World Masters Games, the Special Olympic World Summer Trial Games, and several other high-visibility events. Support provided under this program included security, safety, explosive ordnance disposal, aviation, and communications, as well as standby-response capabilities for potential WMD incidents. In terms of the Army support provided, the largest FY98 special event was the Nike World Masters Games, which involved twenty-five soldiers at a cost exceeding $130,000. Funding for this and similar events comes from the congressionally approved Support for International Sporting Competitions fund.

The Army acquired additional internal security missions in FY 1998. By DOD Directive 5160.54 (20 January 1998), the secretary of the Army was assigned executive-agent responsibilities for the Critical Asset Assurance Program (CAAP), intended to protect assets in the United States that are vital to readiness and operations. The DOMS was assigned as the action agent and established the DOD CAAP office. The CAAP office has conducted a series of workshops that have helped orient the DOD agencies, services, and commanders in chief to CAAP vision, concepts, processes, and expectations. In the summer of 1998, the secretary of the Army assumed responsibility for the Office of the Secretary of Defense's Continuity of Operations Program, intended to ensure that essential military missions continue in the event of enemy attacks on the continental United States. The DOMS serves as the action agent, managing the planning and operations portion of the program, as it does for the Army's own continuity of operations program.

In early March 1998, the Army Corps of Engineers entered discussions with the District of Columbia Public Schools (DCPS) concerning assistance with infrastructure work. These discussions culminated in a memorandum

of agreement between the Corps and the DCPS, approved on 17 April 1998. The Intergovernmental Cooperation Act (31 U.S.C. 6505) authorized assistance to the DCPS for FY 1998. Using this authority, the Corps of Engineers could provide technical assistance but could not perform contracting on behalf of state and local governments. For FY98 projects, the Corps of Engineers gave extensive engineering and technical services, as well as all acquisition and contract administration functions (including construction inspection). The District of Columbia awarded contracts and was legally responsible for all contracting actions; however, a provision in the FY99 Omnibus Appropriations Act gave authority to the Corps to provide contracting services for the repair and improvement of DCPS facilities.

The partnership with the DCPS resulted in the completion of several critical projects. Work included replacement of boilers and repairs to elevators, emergency generators, air conditioning systems, and windows. The Corps of Engineers also drew on a broad range of capabilities to assist with engineering and technical services involving master planning, geographic information systems, and facilities management databases. Comprehensive facility assessments were completed for all active schools, identifying urgent needs amounting to $440 million. The Corps of Engineers also provided assistance in managing critical FY98 operations and maintenance needs. Additional ongoing work with the DCPS included development of a long-range facilities master plan; development and support for improved work management systems; and development of management plans for asbestos, lead paint, and underground storage tanks. The Corps of Engineers worked with the DCPS to share information with the community, key stakeholders, and Congress. Reviews were held weekly with the DCPS; the Corps also participated in meetings of the board of trustees and the board of education, responded to media inquiries, and provided briefings to explain Corps of Engineers assistance to other officials in the District of Columbia.

Declassification of Army Records

On 1 January 1997, the adjutant general was designated the Army's records declassification authority. The adjutant general subsequently delegated that authority to personnel in the Army Declassification Activity (ADA) of the Adjutant General Directorate, responsible for the automatic, mandatory, and systematic declassification programs mandated by Executive Order 12958 (17 April 1995). Under this order, which prescribes a uniform system for the classification, safeguarding, and declassification of national security information, all classified information contained in permanent historical records for more than twenty-five years is to be reviewed for

declassification or exemption from declassification. Documents not reviewed will be declassified automatically on 17 April 2000. This order thus requires the Army to review approximately 270 million pages of documents dated before 1975.

Reviewing this volume of classified material required extensive effort. In 1997, the ADA acquired contractual support from Kajax Engineering, Inc., to consolidate and automate more than four hundred separate classification guides; develop a declassification training package; and provide a six-month proof-of-principle test to validate the declassification process, develop a database, and validate the digital classification guide and declassification training package. The test conditions required the review of a minimum of 5 million pages. For the proof-of-principle test, the ADA established, equipped, and staffed a declassification facility to review material from the Washington National Records Center (WNRC) in Suitland, Maryland. The joint contractor–government effort analyzed the document review processes to determine the most cost-effective method for fulfilling the requirement within the specified time. The proof-of-principle test ended on 31 May 1998, with the ADA having reviewed more than three times the number of pages required. On 15 October 1997, declassification operations began at the Army declassification facility (ADF) in Arlington, Virginia. At the end of FY 1998, the ADF had reviewed more than 24 million document pages. Besides ADF operations, other permanent historical records were reviewed at National Archives and Records Administration (NARA) facilities, including the National Archives, Washington, D.C.; the WNRC; and the Federal Records Center in St. Louis, Missouri. A total of 117 million pages were reviewed at all sites. By the end of FY 1998, more than two hundred government and contractor personnel had completed declassification training. Training products included a computer-based training package, a VHS training film and script, an extensive list of historical DOD and Army acronyms, and an online Army Classification Guide that consolidated a number of earlier guides.

The DOD commitment to identify all information pertaining to the health problems of Persian Gulf War veterans has strongly influenced the conduct and organization of Army declassification work. The DOD named the Army as executive agent for the associated declassification effort in 1995, and on 21 April of that year the Center of Military History Gulf War Declassification Project (GWDP) assumed the Army's executive-agent responsibilities. On 1 January 1997, the GWDP was transferred from the Center of Military History to the Personnel Command. On 30 September 1997, the GWDP finished the scanning, review, and declassification of all health-related Army operational Gulf War records, declassifying 30,300 documents. All declassified documents were provided to the DOD and subsequently were posted on the Internet. On 1 October 1997, the GWDP merged with the ADA,

which identified more than two hundred points of contact from one hundred government-wide organizations to assist the Army with its declassification effort. In February 1998, members of the ADA coordinated a multi-tiered approach to reviewing permanent historical records that were classified *secret* or below and stored in the National Personnel Records Center, St. Louis, Missouri, a satellite activity of the NARA. This review began during FY 1998, with completion projected for early FY 1999. In April 1998, a memorandum of agreement allowed the Army to temporarily remove documents from the National Archives II facility at College Park, Maryland, for review at the ADF. In June 1998, processing of the NARA records at the ADF began. Another April 1998 memorandum of agreement allowed the Army to review records from the U.S. Army Military History Institute (MHI) at Carlisle Barracks, Pennsylvania. The first MHI records processed in the ADF were on microfilm, which established the ADF's ability to review nonprint media. In June 1998, the ADA completed the review of Army records, classified *secret* or below, covered by the provisions of Executive Order 12958 and stored at the WNRC (approximately 13 million pages). The GWDP element of the ADA reindexed GWDP's 2.3 million-item electronic archives, enabling the Office of the Special Assistant for Gulf War Illness to search the database with greater speed and accuracy. A new organization, the Records Management and Declassification Agency, was scheduled to be created within the Adjutant General Directorate at the beginning of FY 1999. That agency would encompass ADA and other elements of the Adjutant General Directorate, such as the GWDP, the Armed Services Center for Research of Unit Records, and the Freedom of Information Act and Privacy Act Division.

9

Conclusion

The rapid movement to Kuwait of the 1st Brigade (-), 3d Infantry Division (Mechanized), in February 1998 was perhaps the most dramatic Army deployment of FY 1998, but it represented only one aspect of the Army's missions. Less urgent and ambitious deployments sent Army forces elsewhere throughout Central Europe, Latin America, and the Middle East on peacekeeping and counternarcotics missions. Still other missions required the deployment of forces for disaster relief to the Pacific and to Latin America, as well as within the continental United States. Meanwhile, perception of the rising threat of terrorists using weapons of mass destruction (WMD) produced a new set of Army responsibilities. All of these tasks were undertaken within the constraints of a National Military Strategy that required the Army to plan, train, and equip for potential engagement in two simultaneous major theater wars.

Fulfilling such a wide range of missions required considerable effort. On 30 September 1998, the Army had nearly thirty thousand soldiers permanently deployed to more than eighty countries, plus 118,000 troops temporarily stationed forward, outside the United States. In all, this represented roughly one-third of the active Army or one-seventh of the total Army. A daily average of 28,420 soldiers were deployed in seventy-six countries. This was less than the daily average of 31,316 soldiers deployed to more than a hundred countries in FY 1997, but it still represented a demanding level of activity in a wide variety of missions.

The Army had to meet these challenging training and operational demands with diminished resources. In keeping with the recommendations of the Quadrennial Defense Review, active Army end strength declined to 488,880 by the close of FY 1998, down from 491,707 the previous fiscal year. In contrast, the active force had totaled 781,000 at the end of the Cold War in FY 1989. Even the decreased strength proved a challenge to maintain. The Army failed to meet its recruiting goals for FY 1998. The service did exceed its goal for retaining personnel: Despite the stresses of deployment, the Army achieved 105.5 percent of its retention goals for first-time enlistees and 102.2 percent of its goals for soldiers at mid-career. The decline in available personnel was matched by a decline in available funds. The Army's FY98 total obligation authority of $60.4 billion represented a decrease of $3.8 billion from that of the previous fiscal year. The Army's share of the defense budget remained constant at 25 percent, despite the

service's having provided the bulk of the forces in twenty-eight major joint military operations since FY 1989. The need to support operations required cuts to infrastructure accounts: The Army underfunded base operations support by $746 million and real property maintenance by $854 million, relative to requirements. The Army avoided some infrastructure expenses through base realignment and closure actions, but these installation closures carried their own costs, notably extensive environmental cleanup.

To better meet extensive operational demands within its limited personnel ceiling, the Army took a variety of measures in FY 1998 to conserve and enhance its human capital. The service worked to improve recruiting through new data systems, planned to extend and enhance basic combat training to reduce attrition rates, and addressed potential retention problems by expanding selective reenlistment bonus programs and reducing administrative barriers to reenlistment. At the same time, the Army worked to improve recruitment, attrition, and retention rates by bettering the quality of life for soldiers. FY98 efforts in this area included studies and initiatives to increase stability (defined as time on a given station) for soldiers between deployments; the continuation of the service's ongoing effort to upgrade barracks and on-post housing; and new morale, welfare, and recreation initiatives. The Army continued the process of opening more career fields to women, which had begun in 1994. It also worked to establish an improved climate for female and minority personnel through a variety of human relations programs, including the Consideration of Others Program. These programs were part of a general emphasis on the Army core values of loyalty, duty, respect, selfless service, honor, integrity, and personal courage.

The Army also continued to rely heavily on employment of the Army National Guard and Army Reserve to meet mission requirements in FY 1998. The reserve component made up 54 percent of total Army force structure, providing combat support and combat service support forces needed in disproportionate numbers for operations other than war and support to civil authorities. In addition, the reserve component has absorbed emerging missions, as demonstrated by the Army National Guard's establishing Rapid Assessment and Initial Detection teams for domestic defense against WMD. In keeping with the Total Force Initiative, which sought to integrate active- and reserve-component units to make better use of the existing force structure, plans were implemented for integrating active- and reserve-component units into the same divisions, as well as activating multicomponent units below the division level.

In the face of increasing demands on decreasing resources, the Army has moved to identify, develop, and deploy new technologies that greatly improve unit effectiveness. In FY 1998 there were great strides in digitization—the use of modern sensor, computer, and communications equipment in networks to enhance the effectiveness both of individual soldiers

and of units as large as army corps. The enhanced situational awareness of digitized forces enables them to operate over broader areas and to execute combat operations more rapidly and with greater certainty of friendly and enemy dispositions. Throughout the fiscal year, the 4th Infantry Division (Mechanized) conducted extensive experiments at Fort Hood, Texas, to explore and refine digitization systems such as the Army Data Distribution System and the Force XXI Battle Command Brigade-and-Below.

Building on this experience, the Army evolved new organizations to leverage these new technologies and better exploit available resources. In FY 1998, the Army adopted a new organization for the Army's ten armored and mechanized infantry divisions. The new structure, Division XXI, reorganized these heavy division types to reduce their personnel and logistical requirements. It did so by cutting both the size and the number of armor and mechanized infantry battalions in the division, while relying on the benefits of digitization to make up for the loss of three thousand soldiers and thirteen maneuver companies from each division's strength. Division XXI also broke new ground by integrating substantial numbers of reserve-component soldiers into its combat support, combat service support, and staff establishments. In addition to the new heavy division organization, a reorganized light division was under development, as was a lightweight "strike force" successor to current armored cavalry formations. Like Division XXI, both of these formation types will emphasize improved deployability and incorporate digitization at all levels.

The Army also has worked to improve its logistical arrangements to get the most out of the resources available, using the same technological innovations as those involved in digitization to enhance its logistics. FY98 logistical improvements included new systems for tracking supplies through radio-frequency tracking devices and bar coding in concert with automated inventory systems. Similar systems have been implemented to manage spare parts supplies and maintenance procedures. The Army's logistical systems also have been improved to support increased demands for strategic mobility. In FY 1998, the Army expanded its maritime pre-positioning capabilities in conjunction with the U.S. Navy, acquiring the first three of fourteen new large, medium-speed, roll-on/roll-off cargo ships. In support of this enhanced capacity, the Army also has worked to enhance its logistics-over-the-shore capabilities with new landing craft and floating cranes. These improved facilities should combine with the smaller logistical demands of the new divisional structure to increase the strategic mobility of heavy forces in particular.

The demands of digitization and increased deployment levels have lent even greater importance to the Army's development and modernization efforts. To exploit the information resources inherent in digitization, the Army has continued to develop its weapons systems in an effort to achieve

and preserve overmatch capabilities in combat, enhancing existing systems while conducting research on new ones. A particular emphasis in FY 1998 was the enhancement of deep attack capabilities. A variety of deep attack initiatives—both acquiring new weapons, such as the Brilliant Anti-Tank precision-guided submunitions, and improving existing systems, such as the Multiple Launch Rocket System and the Army Tactical Missile System—sought to exploit developing information dominance capabilities. Along with enhanced range and accuracy, an important goal has been greater strategic mobility through lowered system weight, manning, and logistical requirements. Efforts were also made to improve the effectiveness of light forces, both by integrating digitization systems pioneered in the heavy force and by accelerating the development of such weapons systems as the High-Mobility Artillery Rocket System and the Javelin antiarmor missile. A major thrust of future materiel development, notably the Future Combat System slated to replace the current generation of tanks and armored fighting vehicles, will be the reduction of vehicle weight to less than twenty tons, both to facilitate initial rapid deployment and to reduce the logistical tail of deployed forces. At the individual level, systems are under development to equip the individual infantry soldier for a challenging environment encompassing night combat, military operations in urban terrain, and a renewed threat from WMD.

By the end of FY 1998, the Army had progressed considerably in its transition from the forward-based Cold War force oriented against a specific threat to a power-projection force able to react to less-defined contingencies. The service had developed strategies to deal with the material and human costs of the post–Cold War drawdown; simultaneously, it adapted to the costs of the new strategic environment with its multiple deployments and high tempos. The Army also took decisive steps to assimilate new technologies with the potential to greatly improve its tactical, operational, and logistic effectiveness even in its new, smaller force structure. These initiatives show considerable promise for improving the state of the Army's personnel, materiel, and operations. But being as ambitious as they are, the initiatives may be vulnerable to unforeseen changes in the budgetary or strategic climates.

Glossary

AAFES	Army and Air Force Exchange Service
AAN	Army After Next
AAP	Army Ammunition Plant
AC	active component
ACADA	automatic chemical agent detector/alarm
ACIPS-G	Army Casualty Information Processing System Graphical User Interface
ACOM	Atlantic Command
ACRI	African Crisis Response Initiative
ACS	Army Community Services
ACTD	Advanced Concept Technology Demonstration
ACTEDS	Army Civilian Training, Education, and Development System
AD	Army Depot
ADA	Army Declassification Activity
ADAPCP	Alcohol and Drug Abuse Prevention and Control Program
ADF	Army declassification facility
ADIP	Army Diagnostic Improvement Program
AEA	Army Electronic Archive
AECP	Army Experimentation Campaign Plan
AERS	Army Electronic Research System
AFLPO	Army Foreign Language Proponency Office
AHRI	American Heritage Rivers Initiative
AIS	automated information system
AIT	automatic identification technology
AIW	Army Information Warehouse
AMC	Army Materiel Command
AMEDD	Army Medical Department
AMEDDC&S	Army Medical Department Center and School
AMHS	automated message handling-system
AOC	Army Operations Center
APF	appropriated funds
APS-3	Army Pre-positioned Stocks-3
ARADS	Army Recruiting and Accession Data System
ARISS	Army Recruiting Information Support System
ARCENT	U.S. Army Forces Central Command
ARMP	Army Recreation Machine Program

ARMS	Aviation Reconfigurable Manned Simulator
ARNG	Army National Guard
AR-PERSCOM	U.S. Army Reserve Personnel Command
ARSOF	Army Special Operations Forces
ASAS	All-Source Analysis System
ASMP	Army Strategic Mobility Program
ASP	ammunition supply point
ATACMS	Army Tactical Missile System
ATAV	Army Total Asset Visibility
ATD	Advanced Technology Demonstration
AWE	advanced warfighting experiment
AWOL	Absence Without Leave
BAT	Brilliant Anti Tank; later Brilliant Antiarmor
BCTP	Battle Command Training Program
BMP-1, BMP-2	*Boyevaya Mashina Pyekhota* (Russian) Infantry Combat Vehicle
BRAC	base realignment and closure
CA	civil affairs
CAAP	Critical Asset Assurance Program
CAL	Central Analytical Laboratory, Moscow, Russia
CAMDS	Chemical Agent Munitions Disposal System
CCTT	close combat tactical trainer
CENTCOM	U.S. Central Command
CHATS	Counterintelligence and Human Intelligence Automated Tool Set
CHP	controlled-humidity preservation
CIF	central issue facility
CIO	chief information officer
CIPMS	Civilian Intelligence Personnel Management System
CivPro	CPOC Productivity Reporting System
CJCS	chairman, Joint Chiefs of Staff
CJSOTF	Combined Joint Special Operations Task Force
C/JTF-KU	Coalition/Joint Task Force-Kuwait
CMF	career management field
CMTC	Combat Maneuver Training Center
COE	center of excellence
COMPIO	Consequence Management Program Integration Office
COMSFOR	commander, Stabilization Force
CONUS	continental United States
CPMS XXI	Civilian Personnel Management System
CPOC	Civilian Personnel Operations Center
CPOCMA	Civilian Personnel Operations Center Management Agency
CRREL	Cold Regions Research and Engineering Laboratory

CRUR	Center for Research of Unit Records
CSA	Chief of Staff, Army
CWDF	chemical weapons destruction facility
DA	Department of the Army
DCIPM	Dual-Purpose Improved Conventional Munitions
DCIPS	Defense Casualty Information Processing System
DCPDS	Defense Civilian Personnel Data System
DCPS	District of Columbia Public Schools
DCSOPS	Deputy Chief of Staff for Operations and Plans
DLAMP	Defense Leadership and Management Program
DOD	Department of Defense
DOMS	Director of Military Support
DOPMA	Defense Officer Personnel Management Act
DPICM	Dual Purpose Improved Conventional Munitions
DPP	Domestic Preparedness Program
DU	depleted uranium
ECI	Employment Cost Index
EO	Executive Order
EOA	equal opportunity advisor
EPA	Environmental Protection Agency
EPMD	Enlisted Personnel Management Directorate
ER	extended-range
ERC	Employee Relocation Council
eSB	enhanced separate brigade
EUCOM	European Command
EUSAK	Eighth U.S. Army, Korea
FA	functional area
FBCB2	Force XXI Battle Command Brigade-and-Below
FCR	fire control radar
FLO	Foreign Liaison Officer
FMS	Foreign Military Sales
FOIA	Freedom of Information Act
FORSCOM	Army Forces Command
FRP	Facilities Reduction Program
FRTR	Federal Remediation Technologies Roundtable
FSP	Force Support Package
FY	fiscal year
GCSS-Army	Global Combat Support System-Army
GMLRS	guided multiple launch rocket system

GPS	Global Positioning System
GS	General Schedule
GUARDFIST-II	Guard Unit Armory Device Full-Crew Interactive Simulation Trainer-II
GWDP	Gulf War Declassification Project
HIMARS	High-Mobility Artillery Rocket System
HIV	human immunodeficiency virus
HMMWV	high-mobility multipurpose wheeled vehicle
HPLRP	Health Professions Loan Repayment Program
HPSP	Health Professions Scholarship Program
HQDA	Headquarters, Department of the Army
ICAM	Improved Chemical Agent Monitor
ICDT	Inter-Component Data Transfer
IGAR	Inspector General Action Request
IRML	Information, Resource Management, and Logistics
IRRAA	Individual Ready Reserve Activation Authority
IRT	Innovative Readiness Training
ISM	Integrated Sustainment Maintenance
IT	information technology
ITAPDB	Integrated TAPDB
ITR	independent technical review
JAGC	Judge Advocate General Corps
JCF AWE	joint contingency force advanced warfighting experiment
JCS	Joint Chiefs of Staff
JODSF	Junior Officer Developmental Support Form
JRISS	Joint Recruiting Information Support System
JRTC	Joint Readiness Training Center
JSC	Joint Service Committee on Military Justice
JSLSCAD	Joint Services Lightweight Standoff Chemical Agent Detector
JTF	joint task force
LAN	local-area network
LCU	landing craft, utility
LMSR	large, medium-speed, roll-on/roll-off ship
LOSAT	Line-of-Sight Anti-Tank
LOTS	logistics over-the-shore
LRAS3	Long-Range Advanced Scout Surveillance System
LUT	limited user test
M&S	modeling and simulation

MACOM	major command
MCA	Military Construction, Army
MFO	Multinational Force and Observers
MFS3	Multi-Function Staring Sensor Suite
MHI	Military History Institute
MLRS	multiple launch rocket system
MOMEP	Military Observer Mission Ecuador and Peru
MPIM/SRAW	Multi-Purpose Individual Munition/Short Range Assault Weapon
MOS	military occupational specialty
msf	million square feet
MTOA	Military Training Open Allotment
MTSA	Military Training Specific Allotment
MTW	major theater war
MWR	Morale, Welfare, and Recreation
MWS	Modular Weapon System
NAF	nonappropriated funds
NAFI	nonappropriated-fund instrumentalities
NARA	National Archives and Records Administration
NATO	North Atlantic Treaty Organization
NGREA	National Guard and Reserve Equipment Appropriation
NIBD	net income before depreciation
NPL	National Priorities List
NPS	non–prior-service personnel
NTC	National Training Center
O&M	operation and maintenance
O&S	operations and support
OCCH	Office of the Chief of Chaplains
OCLL	Office of the Chief of Legislative Liaison
OCPA	Office of the Chief of Public Affairs
ODCSINT	Office of the Deputy Chief of Staff for Intelligence
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
ODCSPER	Office of the Deputy Chief of Staff for Personnel
ODISC4	Office of the Army Director for Information Systems for Command, Control, Communications, and Computers
ODUSA-IA	Office of the Deputy Undersecretary of the Army (International Affairs)
OERS	Officer Evaluation Reporting System
OICW	objective individual combat weapon
OMA	Operation and Maintenance, Army
OMB	Office of Management and Budget
OPCW	Organization for the Prohibition of Chemical Weapons

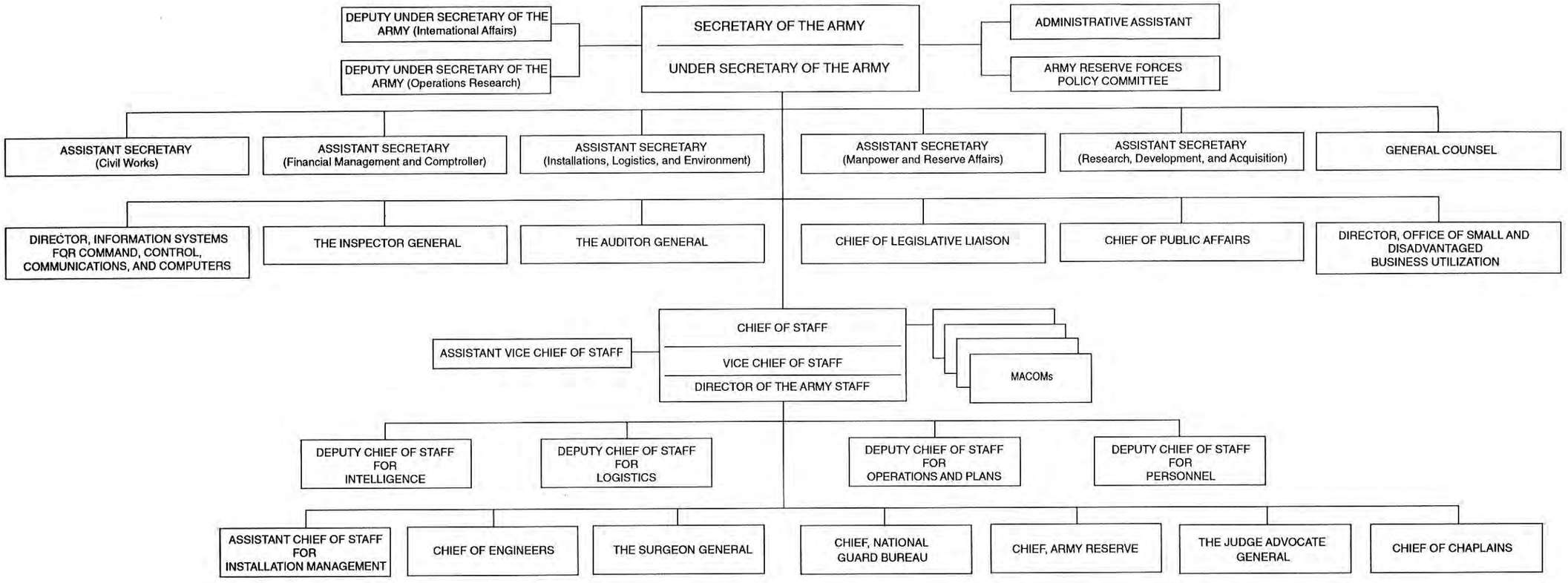
OPFOR	Opposing Force
OPMS XXI	Officer Personnel Management Systems XXI
OPTEMPO	operating tempo
ORB	Officer Record Brief
OSAGWI	Office of the Special Assistant for Gulf War Illnesses [DOD]
OSD	Office of the Secretary of Defense
OSUT	one-station unit training
PACM	Public Affairs and Communications Media
PACOM	Pacific Command
PAPA	Public Affairs Proponent Activity
PAT	process action team
PCC	Personnel Contingency Cell
PEO	program executive officer
PEO STAMIS	AMC Program Executive Office, Standard Army Management Information Systems
PERMS	Personnel Electronic Record Management System
PERSCOM U.S.	Total Army Personnel Command
PERSINSD	Personnel Enterprise Systems Integration Office of the Personnel Information Systems Directorate
PM-NSCM	project manager for non-stockpile chemical materiel
PM-TMDE	program manager for test, measurement, and diagnostic equipment
POM	Program Objective Memorandum
POP	Port Opening Package
PSRC	Presidential Selected Reserve Call-up
PSYOP	psychological operations
PTSD	posttraumatic stress disorder
QDR	Quadrennial Defense Review
RAB	restoration advisory board
RAID	Rapid Assessment and Initial Detection
RC	reserve component
RDTE	research, development, test, and evaluation
RETROEUR	European Retrograde of Equipment
RLAS	Reserve Level Automation System
RML	Revolution in Military Logistics
RRDF	roll-on/roll-off discharge facilities
SADARM	Sense-and-Destroy Armor
SARSS-O	Standard Army Retail Supply System-Objective
SAW	squad automatic weapon

SFOR	Stabilization Force
SIDPERS	Standard Installation/Division Personnel System
SIMITAR	Simulation in Training for Advanced Readiness
SINCGARS	single channel ground and airborne radio system
SMART-V	Special Medical Augmentation Response Team-Veterinary
SMDAC	Space and Missile Defense Acquisition Center
SMDC	Space and Missile Defense Command
SOCCE	special operations command-and-control element
SOCSOUTH	Special Operations Command South
SOF	special operations forces
SOUTHCOM	Southern Command
SRB	Selective Reenlistment Bonus
SRTV	Soldiers Radio and Television
SSDC	Space and Strategic Defense Command
SSF	Single Stock Fund
STEP	SIMITAR Training Exportable Program
TAA	Total Army Analysis
TADLP	Total Army Distance Learning Program
TAGD	the Adjutant General Directorate
TAPDB	Total Army Personnel Database
TAPDB-AO	Total Army Personnel Database-Active Officer
TMDE	test, measurement, and diagnostic equipment
TOE	Table of Organization and Equipment
TOPMIS	Total Officer Personnel Management Information System
TOPTUS	Total Officer Personnel Transaction Update System
TOS	time on station
TRADOC	Training and Doctrine Center
UN	United Nations
UNPREDEP	UN Preventive Deployment
USACEAC	U.S. Army Cost and Economic Analysis Center
USACHCS	U.S. Army Chaplain Center and School
USACHPPM	U.S. Army Center for Health Promotion and Preventive Medicine
USAMRMC	U.S. Army Medical Research and Materiel Command
USAR	U.S. Army Reserve
USAREUR	U.S. Army Europe
USARSO	U.S. Army South
USDA	U.S. Department of Agriculture
USD (P&R)	Undersecretary of Defense for Personnel and Readiness
USFK	U.S. Forces Korea

VETCOM	Army Veterinary Command
VM	velocity management
WLMP	Wholesale Logistics Modernization Program
WMD	weapons of mass destruction
WNRC	Washington National Records Center

Index

Appendix. Organization of the Department of the Army



As of March 1998