

Department of the Army Historical Summary

Fiscal Year 1992

by

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Introduction

For more than 200 years, the United States Army has served the American people in many ways. Along with the U.S. Navy, it fought the war that gave the new nation its independence from Great Britain and then waged the Civil War to preserve the Union. In this century, it has helped defend the nation from foreign enemies in two world wars and several lesser conflicts. But its contributions go beyond the nation's wars. It has not only deterred aggression but also helped to project American power to trouble spots around the globe. Over the years, it has contributed to American society through advances in scientific and technical knowledge, improvements in public health, construction of roads and waterways, aid to victims of natural disasters, and numerous other ventures. During fiscal year (FY) 1992, the U.S. Army continued this long tradition of service to the nation.

Fiscal year 1992 opened at a time of great turbulence as the old bipolar structure that had dominated international relations since World War II disintegrated. During the mid and late 1980s, Mikhail S. Gorbachev had employed *perestroika* (restructuring of the economy) and *glasnost* (openness) in a desperate attempt to save an ailing Soviet Union from collapse. In December 1988, the Soviet President announced the withdrawal of Soviet troops from Eastern Europe, leaving Communist regimes without the support that had bolstered their rule for over forty years. The end of these regimes followed swiftly. In June 1989, the Polish resistance party Solidarity won nationwide elections, heralding the end of one-party rule. In August, the Lithuanian parliament declared illegal its 1940 annexation to the Soviet Union. Two months later, the Hungarian Communist Party declared itself non-Communist, and on 9 November, a new East German regime opened the Berlin Wall. By the end of 1989, Czechoslovakia had formed a noncommunist cabinet, Nicolae Ceausescu had been executed in Romania, and Bulgarian Communists had renounced their hold on power.

Events followed with stunning rapidity over the ensuing two years. During 1990, Eastern Europe held its first free elections, the two Germanies reunited, and the Soviet Congress repealed the Communist Party's monopoly of political power. As the old Soviet Union disintegrat-

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ed, Gorbachev strove to form a new compact among its member states while maintaining his control against a coup attempt by hardliners within his own party. Unable to resist the rising power of Russian President Boris Yeltsin, he resigned in December 1991, leaving a loosely affiliated commonwealth in place of the old Soviet Union.

Any euphoria within the United States over the collapse of the Soviet Union and the end of the Cold War was tempered by the realization of continuing tension and upheaval around the world. Indeed, the demise of the old bipolar structure often released ancient hatreds and old rivalries that had been suppressed by the superpowers. In Yugoslavia, an ethnic cauldron was about to explode. In China, the Tiananmen Square massacre of June 1989 revealed a harassed, aging elite clinging to power in a nation of increasing weight in the world balance. Antagonism between India and Pakistan lay dormant but threatened to erupt again at any time. In North Korea, the United States faced a potential enemy still dedicated, even without Soviet support, to reunifying the Korean peninsula under its rule.

In Africa, South America, and the Middle East, the problems were, if anything, more intractable. Famine and upheaval were widespread in Africa, notably in South Africa, where the black majority challenged white apartheid. Even with the impending settlement of the civil war in El Salvador, Latin America faced seemingly insoluble economic problems that spawned unrest. And in the Middle East, the perennial Arab-Israeli conflict, as well as the threat to Western interests from Iran and Iraq, posed a constant challenge to American policymakers already concerned about the growing global menace from proliferation of nuclear, chemical, and biological weapons; state-sponsored terrorism; and illicit drug trafficking across international borders.

The Bush administration and the Department of Defense had to produce a new national strategy and force structure to respond to this radically changed world. Since World War II, U.S. military strategy had focused on the Soviet Union, containment, mutual security alliances, strategic nuclear weapons, and forces and materiel pre-positioned in Europe. Despite the dissolution of the Warsaw Pact, President George Bush and his advisers still saw the preservation of American access and influence, the defeat or deterrence of aggression, and promotion of regional stability and cooperation as their objectives. They still relied on mutual security and strategic deterrence to accomplish those objectives. They planned, however, to reduce the forward presence of U.S. forces overseas and to rely more on a contingency force of heavy, light, and special operations units based in the continental United States in reacting to crises.

Whatever the objectives of American defense policy in the post-Cold War world, they would have to be accomplished by a smaller military

establishment. Responding to a Congress eager to cut military spending in the face of a thawing Cold War and a rising military budget, Secretary of Defense Richard B. Cheney announced in the summer of 1990 a plan to cut the Army from 770,000 to 520,000 and from eighteen to fourteen divisions by 1995. By the end of FY 1990, the Army had dropped to 728,000 men and women, largely through higher recruiting standards and programs to reduce manpower. Under the Base Realignment and Closure (BRAC) process, the Army proposed the closure of more than 200 installations overseas and within the United States. And the Army planned to reduce training costs through the expanded use of simulations and other training aids at home stations.

As the Cold War came to an end, however, events in Panama and the Persian Gulf showed the continued need for strong military forces in a dangerous world. On 20 December 1989, more than 25,000 American soldiers, sailors, airmen, and marines invaded Panama to overthrow the rogue regime of General Manuel Noriega, who was suspected of involvement in drug trafficking. Through simultaneous airborne night assaults against twenty-seven targets across the country, American troops overwhelmed the surprised Panamanian Defense Force and quickly established control. On 3 January, Noriega surrendered to American troops who had encircled his refuge in the Vatican embassy. American troops remained in the country for several more weeks, helping the new Panamanian government restore order and basic services to the population.

On 2 August 1990, the same day that President Bush was announcing a 25 percent cut in U.S. armed forces by 1995, more than 100,000 Iraqi troops overran the oil-rich Persian Gulf nation of Kuwait. When Saudi Arabia requested assistance, the United States launched DESERT SHIELD, a buildup of over 500,000 American military personnel, including more than 300,000 soldiers from Europe and the continental United States. On 17 January 1991, after Iraq had refused to withdraw from Kuwait, the United States and its allies commenced DESERT STORM, an intensive bombing campaign followed on 24 February by a ground offensive to liberate Kuwait. Within 100 hours, coalition forces destroyed more than 3,800 Iraqi tanks, captured an estimated 60,000 Iraqi prisoners, rendered 36 of the 43 Iraqi divisions unfit for continued offensive operations, and drove Iraqi troops from Kuwait.

Not surprisingly, the Persian Gulf War and its legacy had a major impact on the Army for the remainder of FY 1991 and FY 1992. In particular, the Army studied carefully the numerous lessons on mobilization, deployment, and sustainment in a theater 8,700 miles from the continental United States. Although existing plans had served the Army well, the Army had also greatly benefited from the five-month hiatus between the Iraqi invasion and the start of DESERT STORM. Postwar Army evaluations

focused on problems in mobilization of the reserves, including problems in combat readiness of "roundout" brigades and the lack of a standardized training validation plan, as well as the lack of joint deployment training and shortages in strategic lift capability. On the other hand, the Army greatly benefited from pre-positioning of war stocks in Europe and from arrangements for support from host nations. In general, the "Big Five" of Army weapons systems—the Abrams

tank, the Apache and Black Hawk helicopters, the Bradley Fighting Vehicle, and the Patriot air defense system—performed beyond expectations. The Gulf War would have a continuing impact on Army training and education. Given the demands of overseas deployments, the National Training Center conducted only five unit rotations during FY 1991, and other programs experienced similar declines.

In the aftermath of DESERT STORM, the Army resumed its downsizing. For FY 1991, the budget dropped again to a level of \$73 billion, the sixth consecutive year of decline in real figures. During the fiscal year, the Army inactivated the 2d Armored and 9th Infantry Divisions, and planners anticipated a decline to a four-corps, twenty-division force by 1995. By the end of FY 1991, the Army's active component strength had dropped to 706,160. With regard to the reserve component, the Army deferred formal reductions pending the response of Congress to its Total Force Policy Report.

At a time of reductions in force structure and personnel and the resulting potential for demoralization, the Army recognized that quality of life programs were more important than ever before. Budget cuts limited the construction of new housing, so the Army relied on such programs as the Whole Neighborhood Revitalization Program and the encouragement of construction on federal land by private developers, who would then lease their properties to soldiers. Fortunately, the Military Child Care Act of 1989 assured minimum funding levels and improvements in the staffs of Army child care facilities. Through such efforts as the Gateway to Care program, the Army sought to increase the quality of medical services for personnel while controlling skyrocketing health care costs. The Army also adjusted its financial benefits to ensure that participants in JUST CAUSE and the Gulf War received Imminent Danger Pay, and it also announced that enlisted men would not have to pay federal income tax on military compensation for service in the Gulf War.

Budget reductions likewise had a major impact on the Army's modernization program. From FY 1989 to FY 1991, the procurement budget dropped from \$14.8 billion to \$9 billion. To keep a rein on costs, the Army issued new equipment to units on the basis of their priority for deployment in the event of a crisis, and it also focused on acquiring new, more advanced weapons systems rather than upgrading existing ones. The

Armored Systems Modernization Plan, for example, curtailed production of M1A1 and M1A2 tanks with Block III and sought instead a Block III heavy chassis that it could also use for the Combat Mobility Vehicle, the Advanced Field Artillery System, and the Infantry Fighting Vehicle. But the Army still managed to continue development and procurement of the Comanche Light Helicopter, the Forward Area Air Defense System, and the High Mobility Multipurpose Wheeled Vehicle (HMMWV). The Army also continued its participation in the Strategic Defense Initiative, experimenting with free electron lasers, neutral particle beams, and artificial intelligence.

With regard to mobilization, deployment, and sustainment, the remaining months of FY 1991 after Operation DESERT STORM provided too short a time for the Army to do much more than assess the lessons of the Gulf War. The Department of Defense Total Force Policy Report at the end of the fiscal year confirmed the use of National Guard brigades to round out ready divisions and otherwise essentially reaffirmed the integration of active and reserve roles that the Army had formalized in 1973. Congress did pass legislation that confirmed that reservists called to active duty would retain medical insurance provided by their employers. But further reforms in the Army's structure for mobilization, deployment, and sustainment remained for the future.

In the aftermath of the Gulf War, the Army returned to a host of subsidiary functions in addition to its traditional peacetime task of preparation for war. Army engineers continued their involvement in civil works and water projects, and Army personnel provided relief for victims of natural disasters and participated in the war on drugs. By April 1991, U.S. Southern Command (SOUTHCOM) had eleven antidrug teams in five Latin American countries. During FY 1991, the Army also allocated about \$350 million for environmental cleanup and established a program to help its commanders comply with federal and state laws pertaining to the environment.

In FY 1992 there was more turbulence around the globe as the reverberations from the collapse of the Soviet Union spread. The fledgling Commonwealth of Independent States endured a new period of instability as the twelve former

Soviet republics sparred over boundaries and renewed old cultural rivalries. Turmoil erupted again in Afghanistan as rival groups struggled for power. In the Balkans, Croatia, Slovenia, and Bosnia seceded from Serb Yugoslavia. When Bosnian Serbs reacted by bombarding Sarajevo in May 1992, President Bush considered intervention, and the United Nations (UN) backed the use of force to facilitate aid to the troubled area. With regard to the Middle East, the United States and the former Soviet Union sponsored peace talks between Israel and its Arab neighbors and Lebanese terrorists returned the last of their American

hostages, but terrorism continued to be a major American concern. Despite warnings from the United Nations and U.S. troop exercises in Kuwait, Iraq continued to block weapons inspections mandated by the Gulf War peace accords. The troubles with Iraq and reports of arms discussions between China and Iran underscored U.S. concern over the growing arsenals of armor, missiles, and chemical weapons assembled by many Third World countries.

At home, a presidential election year held most of the attention during FY 1992, but domestic emergencies would demand the Army's attention. In April, riots in Los Angeles followed the acquittals of policemen in the Rodney King beating case. In August and September, two massive hurricanes—Andrew and Iniki—ripped through Florida, Louisiana, and Hawaii.

The worldwide ferment added to the difficulties encountered by the Bush administration and the Department of Defense in preparing a new national military strategy for the post-Cold War world. The Soviet Union no longer presented such a powerful, monolithic threat, and strategic arms reductions laid out by President Bush and President Yeltsin in their June 1992 summit contributed to the ongoing thaw in relations. Nevertheless, American leaders remained concerned about control of the old Soviet nuclear arsenal and the proliferation of Soviet nuclear technology. A North Atlantic Treaty Organization (NATO) conference in November 1991, while acknowledging the collapse of the Soviet threat, pointed out the danger from political instability in Eastern Europe and from the spread of weapons of mass destruction. During the early spring of 1992, Congress and the Department of Defense struggled to determine vital American interests and to redefine the role of the military in the post-Cold War world. The Army viewed as among the most likely scenarios a replay of the Iraqi attack on Kuwait, a North Korean invasion of South Korea, concurrent conflicts in the two regions, a coup in Panama, anarchy in the Philippines, and a Russian invasion of Lithuania and Poland.

The new National Military Strategy (NMS) of January 1992 and the new Defense Planning Guidance of May 1992 shed some light on the direction in which American leaders were moving. Envisioning smaller forces and defense budgets in the future, the NMS rested on four concepts: deterrence and defense, forward presence in key regions, power projection, and reconstitution of forces through the formation of new units and expansion of the industrial base. The new guidance called for the use of military force where necessary to maintain the status of the United States as the only remaining superpower. It also stressed diplomacy, cooperative relationships, and a collective response over multilateral U.S. interventions. The document promised American support for democracy and peaceful relations among the member states of the Commonwealth of

Independent States, and it reiterated the U.S. interest in regional stability in the Middle East.

Such was the context in which the Army and its new Chief of Staff, General Gordon R. Sullivan, approached FY 1992. The primary theme of the new fiscal year would be downsizing, or the reduction of force structure, end strength, and overseas presence. Lacking a major threat from a Soviet ground force in Europe or an Iraqi ground force in the Persian Gulf region, and facing large budget deficits at home, the nation could no longer justify an Army of more than 700,000. Having already begun downsizing in previous fiscal years, the Army would continue the painful but necessary process during FY 1992. It would involve the continued inactivation of units as well as voluntary and involuntary separation programs to reduce military and civilian personnel. Army planners envisioned the reduction of the active component of the Army to 580,000 by the end of FY 1997.

General Sullivan was determined that the reductions would not produce a "hollow Army." The Army retained too many worldwide responsibilities and faced the likelihood of too many contingencies to allow a drawdown that would leave it unable to fight. One of General Sullivan's favorite mottos was "No More Task Force Smiths," an allusion to the ill-prepared, ill-equipped American force that failed to stop the North Korean invasion in the early days of the Korean War. Any reductions in force structure and manpower levels must still leave an Army that was organized, trained, equipped, and ready to deploy at a moment's notice to any part of the world and carry out the mission assigned to it by the nation's leaders.

For the Army, this emphasis on readiness meant that it would have to stress both the continued addition of quality personnel and superb training. To ensure a quality force for the years ahead, the Army needed to recruit almost 75,000 high school graduates, the young men and women who would be the noncommissioned officers and leaders of the future. The Army's emphasis on readiness required equal opportunity and the elimination of discrimination to ensure the best use of available manpower. It also needed to maintain high training standards and to emphasize contingency planning, joint operations, and unforeseen circumstances in all exercises in order to prepare its soldiers for a wide range of missions from humanitarian work and disaster relief to actual combat.

During FY 1992, the Army would continue to work on the revision of its doctrine. During fiscal years 1990 and 1991, Training and Doctrine Command (TRADOC) had continued its efforts to develop a more specific version of the AirLand Battle concept. Created in the mid 1970s as a response to a possible Soviet attack on Western Europe, this concept involved nonlinear combat operations by highly mobile, self-contained

forces with close air support. In addition to battlefield doctrine, the Army would revise its doctrine to reflect an increased emphasis on contingency operations and on "strategic agility," the pre-positioning of materiel and the improved tracking of supplies and equipment shipped outside of the continental United States. Under General Sullivan's leadership, the Army would also try to develop new ways to test doctrine, training, force structure, and equipment.

Modernization was a major Army concern in FY 1992. The Army wanted to provide its soldiers with the best equipment in a timely manner. The service's research and development organization would work to reduce the number of obsolete weapons and to upgrade other systems with the latest technology. The Army sought proven, technologically advanced systems that would assure superiority over future adversaries, and it also sought to improve the organization of its science and technology programs. Nevertheless, as in FY 1991, tight budgets would force the Army to reduce the scale of its modernization efforts.

While it tried to maintain its readiness for contingencies outside the continental United States, the Army would continue to serve the nation at home. Historically, the Army in peacetime has provided a ready source of trained and disciplined manpower for various missions that lie outside the purview or capability of other government agencies. Thus, in FY 1992, the Army would again carry out several nonmilitary missions, whether working to control flooding in Chicago, Illinois; helping local authorities restore law and order in Los Angeles after the riots; aiding local law enforcement in the war against illicit drugs; fighting forest fires; or joining the battle against Acquired Immune Deficiency Syndrome (AIDS) and hepatitis A.

Although FY 1992 was a time of great satisfaction for the Army as it contemplated the end of the Cold War, it was also a time of rapid and revolutionary change that presented the Army with many challenges. With declining budgets, shrinking force structure and manpower levels, and rapidly evolving technology, the Army's leaders above all faced the challenge of preserving an Army trained and ready to carry out its many duties in support of national policy. The decisions that they made during FY 1992 would influence the Army not only through the remainder of the decade but into the next century.

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Force Development

Force development is the process of shaping the Army so that it can perform its assigned missions and meet its congressionally mandated responsibilities for mobilizing, organizing, training, equipping, and sustaining the land forces of the United States. The Army Vision, articulated by the Chief of Staff, General Sullivan, set as the objective for force development: "A Total Force Trained and Ready to Fight, Serving the Nation at Home and Abroad, A Strategic Force Capable of Decisive Victory." Using that vision and the tenets of the new edition of Field Manual (FM) 100-5, *Operations*, Army planners during FY 1992 worked to formulate the optimal mix of forces—heavy, light, and special operations—for projecting military power overseas, waging war, and conducting peacekeeping and humanitarian operations. Looming over their deliberations, however, was the prospect of further reductions of the Army's strength and budget.

Force Development Strategy

Louisiana Maneuvers (LAM)

As the Army prepared to shape itself for the new world order, it looked to the past for help. In 1941, the Army Chief of Staff, General George C. Marshall, and his chief trainer, Lt. Gen. Lesley J. McNair, had instituted a series of General Headquarters—level maneuvers in Louisiana and the Carolinas that helped prepare the Army for World War II. Faced with the need to shape a smaller post—Cold War force, General Sullivan decided to institute a new Louisiana Maneuvers (LAM) to revolutionize the way that the Army handled change and prepared for the future.

In essence, LAM is a process by which the Army leadership manages change. LAM evaluates how the Army trains, fights, and sustains its forces at all levels, providing the Army's senior leadership with a method for assessing policy, doctrine, organization, training, materiel, and leader development. Involving all components of the Army, it employs simulations, scheduled maneuvers, and new exercises to test various doctrinal and operational concepts and force designs and to identify key subjects for further investigation across the full range of Army missions. Ideally, it will

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enable the Army to assess its ability to execute its roles and missions under the National Military Strategy and help plot its course into the twenty-first century.

On 22 May 1992, the Chief of Staff officially chartered the Louisiana Maneuvers Task Force, headquartered at Fort Monroe, Virginia, to organize and conduct LAM. General Sullivan served as the overall director of LAM, and the commanding general of the Training and Doctrine Command (TRADOC), General Frederick M. Franks, Jr., became his deputy. The evaluation process called for the army in the field to submit issues of importance to a General Officer Working Group for review and prioritization. This group would present a refined list for the Chief of Staff and other senior leaders of the Army, meeting as the Army's corporate Board of Directors, for study and decision. The board would approve certain proposals for testing by their various proponents within the Army, provide additional funds where necessary, and identify issues needing further investigation within the LAM process. The results of these investigations under the LAM process would be presented to the senior leadership for further discussion and final decision. A unique benefit of LAM will be incorporation of the results and outcomes of these tests into lessons learned and recommended improvements to the Army's war-fighting capability.

The LAM process relies heavily on advanced technology. By harnessing the power of the microprocessor to simulate actions and operations, LAM seeks to overcome the high costs and constraints on land use that restrict the Army's use of field maneuvers. It will use computer simulations to replicate roles and missions, such as a sophisticated counterdrug

campaign, a small-scale strike operation, special operations, a full-scale theater operation, or mobilization and deployment. Modern computing and communications technologies will enable the Army to conduct operations in widely separated locations and to capture critical exercise data.

The newly organized TRADOC Battle Laboratories (Battle Labs) will play a critical complementary role in LAM at lower levels, helping to define capabilities, identify requirements, and determine priorities for the force projection Army of the future. Six Battle Labs—Early Entry, Mounted Battlespace, Dismounted Battlespace, Command and Control, Depth and Simultaneous Attack, and Combat Service Support—operate in the same network. As with LAM, the Battle Labs use distributed interactive, live, and virtual simulations as tools to ensure that the Army will employ its resources in ways that provide the greatest payoff on the battlefield.

AirLand Battle

The United States Army grounds itself on doctrine. Doctrine has a critical impact on how the Army organizes, equips, and trains its forces. It also provides a framework for thinking about the future, inspiring new

ideas, technologies, and designs for organization. In General Sullivan's phrase, "Doctrine is the engine of change."

During FY 1992 TRADOC worked on the fourth revision of FM 100-5, *Operations*, since 1976. As the Army's capstone manual, FM 100-5 lays out the blueprint for the service's conduct of military operations. The latest version will refine the sections on the interaction of the strategic, operational, and tactical levels of war and also the concept of simultaneous, continuous, joint, and combined land combat operations across the depth of the battlefield in all types of weather. The revision will be compatible with Joint Publication 3-0, *Doctrine for Joint Operations*, and will incorporate lessons learned in JUST CAUSE, DESERT SHIELD, DESERT STORM, and other recent operations.

The new FM 100-5 follows the broader principles of its earlier editions. The U.S. armed forces, in cooperation with allied forces, will overwhelm the enemy through total control of the air and ground through the synchronized, decisive application of their combat capabilities across the battlefield under all conditions. They would thereby achieve the maximum degree of destructiveness with minimal risk to the lives of friendly troops. As in the past, the revised doctrine bases its approach on the battlefield concepts of early entry, battle command, battle space, depth and simultaneous attack, and combat service support. It seeks to deny the enemy, physically and psychologically, the ability to operate coherently, thereby attaining complete ascendancy on the battlefield. To the Army, this approach represented a new age in warfare.

The 1993 edition of FM 100-5 will make some significant modifications. The new edition will cover more comprehensively mobilization, deployment, redeployment, and demobilization. With regard to land combat, it will emphasize greater operational flexibility, enhanced force projection, and incorporation of technological advances. It also will address the full range of military operations from war to operations other than war, as well as the Army's role in multiservice and coalition operations worldwide. The coverage of low intensity conflict doctrine will be expanded to include unconventional operations that employ special operations forces. In short, the new manual will seek to teach Army leaders to apply the principles of decisive victory to operations other than war, as military forces are increasingly committed to diplomatic and humanitarian missions. The Army leadership received briefings on the preliminary draft on 1 September 1992, and at the end of the fiscal year the Army was selecting personnel to prepare the final version.

Force Development

Creation of the Base Force Concept

Changes in the world order, as well as adjustments in the National

Security and National Military Strategies and the decline in resources available for defense, inspired the Base Force. Based in the continental United States, this force could either reinforce forward-deployed units or respond to contingencies in other parts of the world. This new force structure relied heavily on power projection to meet the Army's responsibilities. The Cold War Army had designed its force structure around European-based combat forces that it would reinforce to deter or counter Soviet aggression. The new Army, based in the continental United States, would use tailored force packages to respond to regional and ethnic conflicts around the globe. Designed in 1990, the Base Force was not intended to be a smaller Cold War Army, but a force that could achieve a quick, decisive victory on battlefields anywhere in the world and under virtually any conditions.

To handle the Base Force concept's shift from a focus on Europe to a more global orientation emphasizing multiple and varied regional crises, the Army had a balanced array of forces. It could turn to light infantry for immediate deployment by airlift; airborne, air assault, and special operations forces (SOF)/Ranger units for immediate forced entry; and armored and mechanized units for contingencies demanding heavier units. In addition, Army logistical elements could sustain a fully deployed joint force. The Army's reserve components provided the ability to supplement or to replace active forces, whether to sustain or to prosecute a major war.

Keeping in mind the Army's requirement to complement the forces of the other U.S. Armed services, planners thus designed their power projection force as a mixture of armored, light, and SOF units that could be tailored into efficient force packages to meet various challenges. The Army believed that the minimum force necessary to reinforce forward-deployed forces was five fully structured active Army divisions. According to Army plans, the reinforcing lead brigade must reach the operational area by C+4 (four days after the date deployment begins), the lead division by C+12, two heavy divisions from the continental United States by C+30, and the full five-division corps and associated echelons above corps by C+75. Nine more divisions—three active and six reserve component—would be necessary to reinforce the initial power projection force or respond to a second contingency. To expand beyond these fully structured divisions in a major war, the Army planned to form two partially manned and equipped reserve component cadre divisions.

The new National Military Strategy still demanded the forward presence of Army units in certain parts of the world. Despite the end of the Cold War, planners continued to believe that the security of the United States was linked to European security. Also, as the senior partner in the North Atlantic Treaty Organization (NATO), the United States had to maintain a credible military presence in Europe. Under the new concept,

the Army would maintain in Europe an armored corps of two divisions to hold together NATO's multinational formations. These two divisions would provide the base for reinforcing Europe with other American units and also provide the ability to respond to contingencies in or close to Europe. The Army also concluded that it needed a two-division force in Korea to deter North Korea and to demonstrate American commitment to its vital interests in the Pacific region.

Under the Base Force concept, the Army inactivated four divisions and one corps, reducing its strength to pre-Korean War levels. During fiscal years 1990 and 1991 the Army had inactivated the 9th Motorized Division and the 2d Armored Division. After its return from Southwest Asia in 1991, the VII Corps was officially inactivated on 15 April 1992. The 8th Infantry Division had already disappeared from the rolls on 17 January 1992, and the 3d Armored Division followed on 15 August 1992. During FY 1992, U.S. Army, Europe (USAREUR), also lost the 2d Armored Cavalry Regiment, which the Army planned to reorganize as a light armored cavalry regiment. During the fourteen months prior to May 1992, the V Corps, USAREUR's major combat corps, lost fifty-six battalions and thirty-seven company-size units. The Army thus reduced its end strength in Europe by 72,500 men, close to 200 soldiers per day, during FY 1992.

Among the few units that the Army actually added to the force structure during FY 1992 were special operations forces. The Army activated the 2d Battalion, 3d Special Forces Group (Airborne), on 16 October 1991 at Fort Bragg, North Carolina. In addition, the Army formed four special operations coordination elements from May through July 1992 to serve as permanent functional staff cells within the corps' G-3 offices.

Strategic Mobility

As the Army transformed itself into a smaller force based in the continental United States, its ability to project power increasingly depended on its ability to deploy quickly by air and sea an appropriate force that was versatile, lethal, and sustainable. Once those forces were overseas, pre-positioned supplies would have to sustain them until the services had established secure air and sea lines of communication. These functions demanded funding, and the Army also had to allocate funds to ensure the rapid movement of Army forces to ports for deployment overseas.

The congressionally mandated Mobility Requirements Study (MRS) laid the foundation for strategic mobility requirements and procurement plans for fiscal years 1992-99. Conducted by the Joint Staff, the MRS focused on mobility requirements—airlift, sealift, and pre-positioning—through FY 1999, using a variety of contingency scenarios. Volume I on intertheater mobility was completed by the Joint Staff in January 1992.

Volumes II and III—one for supporting documentation and one for intratheater mobility—were scheduled for publication in FY 1993.

The MRS made a number of proposals to enhance the services' capability for rapid deployment. First, it validated the Department of Defense's (DOD) objective for obtaining 120 C-17 aircraft. Second, it confirmed DOD requirements for the increased readiness and capability of the Ready Reserve Force (RRF), which the Maritime Administration of the Department of Transportation maintained for DOD. The planned force would increase from 96 to 142 vessels and include the addition of 18 Roll-On/Roll-Off (RO/RO) ships. The total of thirty-five RRF RO/ROs would be available for loading on four days' notice. Third, the MRS recommended construction or conversion to military specifications of eleven Large, Medium Speed RO/RO (LMSR) ships to enhance the surge sealift of Military Sealift Command, U.S. Transportation Command's (USSTRANSCOM) Navy command. These eleven vessels and the eight Fast Sealift Ships (FSS) already available for sealift would provide a total capacity of 3 million square feet, enough in theory to deploy two heavy divisions from the continental United States in thirty days. They could sail from the U.S. East Coast to Southwest Asia in fifteen days. Fourth, the MRS recommended that the Army expand its floating pre-positioned force from four Army Pre-positioned Materiel (APM) ships to 15 vessels by adding 9 LMSRs and at least 2 container ships. The 9 LMSRs, 2 container ships, and 4 APMs would have a capacity of 2 million square feet, enough to store equipment for a heavy combat brigade, a theater support package, and sustainment for early projection into a theater. The MRS estimated the total cost of this sealift enhancement at \$7 billion.

Available funds permitted fulfillment of almost all of the MRS proposals. Between 1990 and 1992, Congress appropriated \$2.5 billion for the National Defense Sealift Fund to build or convert ships in U.S. shipyards. These funds would supply about eight LMSRs. The Maritime Administration requested additional funding to purchase the entire recommended RO/RO capability for the Ready Reserve Fleet expansion in 1992. At the end of the fiscal year, the Office of the Secretary of Defense (OSD) was reviewing this proposal.

With the Deputy Chief of Staff for Logistics (DCSLOG) serving as its proponent agency, the Army worked to carry out its portion of the MRS. The Army Strategic Mobility Program (ASMP), complementing the MRS, laid out the Army's requirement to project a contingency corps of up to five divisions with accompanying combat and combat service support to any location in the world within seventy-five days. The 1992 ASMP also called for the Army to employ a floating reserve of fifteen ships carrying critical items of equipment. Carrying equipment for an armor heavy brigade and support elements, this reserve would take a strategic position

from which it could support multiple theater commanders.

The Army took a number of steps to implement this program. The ODCSLOG reorganized the Strategic Mobility

Division and appointed an Army-wide Council of Colonels to resolve issues and monitor the progress of the ASMP. By the end of the fiscal year, the Army was working with USTRANSCOM and its Army component command, Military Traffic Management Command, to define the requirements for four additional ships. Military Sealift Command had contracted for three Lighter Aboard Ships (LASH) and a heavy-lift pre-positioned ship (HLPS). During the fiscal year, the Army loaded the first two LASH ships with munitions, subsistence, chemical clothing, medical items, and water support equipment and anchored them in the port of Diego Garcia in the Indian Ocean. It issued contracts for two other pre-positioned ships. Logisticians planned to purchase and load four more ships during FY 1993.

The Army also devoted considerable attention to the problem of shipping troops to U.S. ports. It allocated funds for rail line upgrades, railcar purchases, port construction, and other improvements in infrastructure within the continental United States to ensure the timely movement of units to ports for strategic sealift. The Department of the Army Program and Review Board approved the Army Strategic Mobility Plan Fiscal Years 94-95 Military Construction, Army (MCA), projects and submitted them to OSD for approval. Some ASMP infrastructure projects were under consideration for potential NATO infrastructure funding, and U.S. Forces Command (FORSCOM) worked closely on this matter with members of the European Community.

The Army relied heavily on Pre-positioning of Materiel Configured to Unit Sets (POMCUS) to support the timely deployment of its U.S.-based heavy forces to Europe's central region. During the Cold War, the United States had planned to have a total of ten divisions in Europe, including forward-deployed divisions plus those with equipment sets in POMCUS, within ten days of the outbreak of hostilities. With the end of the Cold War, the "ten divisions in ten days" requirement became invalid, and the Chairman of the Joint Chiefs of Staff halted the construction of additional controlled-humidity warehouses until NATO determined the new reinforcement requirements. By the end of the fiscal year, NATO had not done so. Therefore, POMCUS activities included only the return of equipment drawn to support Operation DESERT STORM, the filling of previous shortfalls as units in Europe were inactivated, and the repositioning of materiel to other theaters.

As the Army decreased in size, it enhanced its force projection capability by continuing to transfer pre-positioned materiel from the central region in Europe to southern Italy, Southwest Asia, Korea, and Diego

Garcia. The Army was creating a global system of pre-positioned unit equipment sets for theater commanders to use in crisis response operations. Theater reserve stocks became Army reserve stocks in order to support the Army component commanders of the unified commands.

Airlift was also crucial to the Army's strategic mobility, but the existing fleet of air transports under the Air Force's Military Airlift Command and its successor, Air Mobility Command, could not meet the Army's strategic requirements. The Air Force's development and acquisition of the C-17, which made significant progress during the fiscal year, was expected to provide the Army with the capability to project a light division around the world. Following the delivery of the first test aircraft in FY 1991, the contractor, Boeing, delivered three more in FY 1992. These aircraft flew more than 200 test missions for a total of 600 hours. The Army actively participated in developmental and operational testing for air drop and transport missions. The program was expected to produce 120 aircraft by fiscal year 2001.

Several other programs supported strategic mobility. An interim progress report by the Joint Containerization Working Group on the Army Containerization Master Plan concluded that the Army needed to align its containerization plan with the ASMP and the Total Distribution System. The Army was already revising its container policy in light of lessons learned from DESERT SHIELD and DESERT STORM, and logisticians also developed requirements for containers for the Equipment Deployment Storage System and unit deployments. The establishment of "on call" brigades within the heavy divisions sought to ensure the availability of units poised for deployment. In all, the Army committed nearly \$2 billion for strategic mobility to project decisive force into any theater.

The Fiscal Year 94-99 Program Objective Memorandum (POM), the Army's key planning document for those years, recognized the critical role strategic mobility played in reshaping the Army. It funded the ASMP at \$1.887 billion, including such items as railcar procurement, deployment training, containers, outload infrastructure, movement control,

and watercraft enhancements. The Army also sent OSD a requirement, which it did not fund, of \$1.062 billion for expansion of the afloat pre-positioning program and creation of a West Coast ammunition port.

Force Mix Analysis

During FY 1992, Congress asked DOD for a report on the options for the structure and mix of active and reserve forces in the mid to late 1990s. The RAND Corporation won the contract and was required to submit its report to the Department of Defense by 1 December 1992. The Secretary of Defense and the Chairman of the Joint Chiefs of Staff were expected to provide Congress with the results of their review of the report no later than

15 February 1993. At the end of the fiscal year, RAND was examining seven force mixes varying in size from 575,000 active and 466,000 reserve troops to 465,000 active and 635,000 reserve.

Total Army Analysis

The Army based its POM for fiscal years 1994-99 on an active force of 520,000, a reserve force of 567,000, and a civilian workforce of 285,000. POM manpower planning adhered to the four Army resources priorities: maintain a trained and ready Army, keep up the quality of the Total Force, maintain the quality of life, and ensure that the resulting force is sustainable. The 1994-99 POM would follow the systematic overall plan to downsize the Total Army through FY 1996. After that, the Army would emphasize sustainment of personnel levels through continuing to recruit and retain the best soldiers.

In even-numbered years, the Army conducts a Total Army Analysis (TAA), a four-phase process to determine force structure for the POM. During the first phase—force guidance—the Army Staff and the Major Army Commands (MACOM) conduct a detailed review of allocation rules, consumption factors, and support from host nations. This initial phase uses the objective provided by the Army's Force Generation Model and the most recent planning scenarios. The second or quantitative phase identifies the required support forces for specific scenarios. During this phase, the Concepts Analysis Agency conducts a series of logistical, deployment, and combat computer simulations. The final product of this phase is the "design force," the Table of Organization and Equipment (TOE) force necessary to execute the Defense Department's Defense Planning Guidance. Qualitative analysis, the third phase, consists of a series of panel reviews of issues raised in the first two phases. It examines these issues for both active and reserve components, including Modification Table of Organization and Equipment (MTOE) and Table of Distribution and Allowance (TDA) units. The TAA Force evolves from these discussions. Leadership review comprises the final phase. The Force Program Review, chaired by the Vice Chief of Staff, validates the TAA Force, resolves remaining issues, and submits the TAA to the Chief of Staff for final approval. Upon his approval, the TAA becomes the blueprint for developing the POM.

The current TAA Force analysis was well under way by the end of FY 1992. The Army completed Phase I of the analysis in early September 1992. At the end of the fiscal year, the Concept Analysis Agency's computer modeling was under way with a projected completion date of 30 October 1992. The Deputy Chief of Staff for Operations and Plans (DCSOPS) directed that the TAA resourcing phases included in the POM contain the following guidance: pay the bills first, take both the TDA

Army and TOE force into account in the competition for resources, and protect the Base Force.

Light Cavalry Regiment

In response to the lessons of DESERT STORM, the Department of the Army in September 1991 directed TRADOC to design a light cavalry regiment. The Chief of Staff had approved the concept and the reorganization of the 2d Armored Cavalry Regiment (Light) using the assets of the 199th Separate Infantry Brigade (Motorized). The 2d would serve as

the light cavalry regiment for the XVIII Airborne Corps and also as the Joint Readiness Training Center's operational force. In April 1992, TRADOC prepared two designs for a light cavalry regiment. An interim design envisioned 4,354 troopers in three ground squadrons, one equipped with M1 tanks, one with M113A3 armored personnel carriers, and one with M113 armored personnel carriers with Tube-launched, Optically tracked, Wire command link-guided (TOW) antitank missile systems. It also called for a regimental aviation squadron containing forty-eight multiple-purpose light helicopters (MPLH).

The Army Staff and FORSCOM expressed concern about the interim design. Headquarters, Department of the Army (HQDA), told TRADOC to reduce the light cavalry regiment to less than 4,100 officers and men, to drop the number of helicopters from forty-eight to thirty-six, and to include only one type of gun in the organization for field artillery. The regiment would use High Mobility Multipurpose Wheeled Vehicles (HMMWV) with TOW until the Army fielded the armored gun system. The revised design contained 3,922 spaces in two ground squadrons, a reconnaissance squadron, and a regimental aviation squadron.

During the summer the design underwent further alterations. On 7 August 1992, the Chief of Staff approved a transitional design of 4,017 spaces in three ground squadrons with HMMWV TOW and a regimental aviation squadron with thirty-three MPLHs and ten UH-60 helicopters. He also accepted the FY 1995 conversion.

Mobilization

Mobilization Planning Review Update

During FY 1992, the Office of the Deputy Chief of Staff for Operations (ODCSOPS) completed the Integrated Army Mobilization Study (IAMS). IAMS was an extensive effort to identify obstacles to mobilization throughout the Army, to draw up a plan to overcome them, and to develop requirements for the POM for fiscal years 1994-99. The process, which began in February 1991, examined major issues raised by different sections of the Army Staff. These sections drew on lessons from

Operation DESERT STORM and three simulations—Contingency Response, Major Regional Response, and Reconstitution—conducted by the Concepts Analysis Agency. IAMS provided input to both the Army Mobilization Action Plan (AMAP) and the ASMP. TRADOC began the development of Field Manual 100-17, *Mobilization, Deployment, Redeployment, and Demobilization*, the first published document to guide commanders at all levels through the mobilization process. It incorporated many lessons from the Gulf War and from the Army's support for recent contingency operations.

The new Army Mobilization and Operations Planning and Execution System (AMOPES), which ODCSOPS developed and fielded in FY 1992, also incorporated many lessons from Operation DESERT STORM and contingency operations. This document, which replaced a mobilization system in use since 1981, provided a single source of information on policies, procedures, guidance, and planning assumptions at all levels of mobilization. It also provided guidance for redeployment, demobilization, recovery, and reconstitution. AMOPES assigned supporting responsibilities to Army commands, agencies, and activities. Functional annexes and appendices applicable to each level of mobilization—Presidential Selected Reserve Call-up, partial mobilization, full mobilization, total mobilization, and demobilization—provided additional guidance. For example, a separate legal annex to AMOPES, based on input from the Judge Advocate General and FORSCOM, supplied information on the provision of legal services and advice to forces mobilized or deployed to a theater of operations. The Army published AMOPES in August 1992, and Army planners expected to review and republish it biennially.

Augmentation and Preassignment Programs for Active Medical Personnel

As the executive agent for DOD, the Office of the Surgeon General, Department of the Army, coordinated with other federal agencies the management of the Selective Service System's Health Care Personnel Delivery System, which mobilizes health care personnel in time of war. Army Regulation (AR) 601-142, *The Army Medical Department*

Professional Officer Filler System (PROFIS), established criteria for assigning Army Medical Department officers during mobilization. It also delineated organizational and individual responsibilities for equipping and training the PROFIS fillers. During FY 1992, the Office of the Surgeon General completed the PROFIS Functional Description for Health Services Command activities and specifications for the PROFIS User's Manual and Data Base. The office also used a PROFIS Mobilization Exercise database during the relief operation following Hurricane Andrew.

Industrial Mobilization

The end of the Cold War affected industrial mobilization as much as other areas of interest to the Army. To prepare for a Soviet attack on Western Europe, the United States had fielded and sustained relatively large numbers of systems and had pushed modernized weapons into production as quickly as possible. This need for the development, production, and deployment of a large number of modernized weapon systems and munitions—and the resulting requirement for enough industrial capacity to expand their production in a crisis—ended with the demise of the Soviet threat.

As a result, the Department of the Army revised its Critical Items List, a prioritized list of items required to sustain the projected force during a conventional global conflict. This list specified for the Army Materiel Command the materiel that the industrial base would provide on a priority basis within seven months after the start of a war, assuming full mobilization and the need to sustain the total force engaged in a global conflict. Based upon the latest defense guidance, the list for FY 1993 displayed fewer items and emphasized replacement rather than sustainment. As a result of these changes, requirements for the industrial base will be lower, warning time will be longer, and industrial mobilization in the traditional sense will not apply.

In December 1990, the Assistant Secretary of the Army for Installations, Logistics, and Environment chartered the Industrial Base Assessment (IBA) to evaluate how well a smaller post-Cold War industrial base could meet Army requirements. The assessment, which was part of the larger Integrated Army Mobilization Study, was prepared jointly by the Logistics Management Institute, the Institute for Defense Analyses, the Analytic Sciences Corporation, and the U.S. Army Logistics Evaluation Agency. The Office of the Deputy Chief of Staff for Logistics briefed the Secretary of the Army on the results of the review on 1 April 1992, and the Army Mobilization Action Plan incorporated the recommendations. The Secretary of the Army transferred all follow-up actions to the Assistant Secretary of the Army for Research, Development, and Acquisition.

The assessment concluded that the Army could no longer depend on "cold" production lines—plants that would have to start production of war items from scratch—for the manufacture of ammunition or other items to sustain a war effort. The Army would have to depend upon "warm" production lines—lines that had already at least partially converted to war production—to meet requirements for war reserves and sustainment of forces. For items that the industrial base could not supply during a major regional contingency operation, the Army would use war reserves and

POMCUS equipment. In addition, the assessment emphasized a strong linkage between the war reserve stocks and industrial responsiveness.

Of the items listed in maintenance strategies for the industrial base, diazepam auto-injectors and pyridostigmine bromide tablets received considerable attention. The Joint Chiefs of Staff designated Nerve Agent Antidote Kit, Mark I (NAAK), and atropine as "warstopper items." The Department of the Army had purchased large stocks of these items during Operation DESERT STORM and saw no need to obtain significant quantities of auto-injectors for the next one to three years. Nevertheless, the industrial base for these items had to be maintained, especially after Duphar Medical Devices, the company that had produced atropine auto-injectors, informed DOD during FY 1992 that it would no longer accept orders. To meet the potential need for nerve agent antidotes, Health Care Logistics, Office of The Surgeon General (OTSG), and the Defense Personnel Support Center proposed an Industrial Base Maintenance Contract directing the contractor to be ready for immediate production of mobilization requirements for NAAK, atropine, and

pralidoxime chloride injection. The contract also required the firm to maintain a product formulation department to produce atropine and diazepam injection solutions as well as pyridostigmine bromide tablets.

Training and Schooling

During FY 1992, Army schools continued to provide soldiers and leaders with the knowledge and skills they needed to accomplish their missions, and unit training continued to prepare units to perform as part of joint and combined arms teams. The Combat Training Centers conducted seventy-six battalion and thirteen division and corps rotations during the fiscal year, and Army units conducted approximately fifty Joint Chiefs of Staff exercises throughout the world. While training programs showed much continuity, external pressures caused changes in the way the Army approached training. Resource and environmental constraints forced the Army to increase its use of simulators and other automated equipment. In addition, unforeseen events required some units to prepare for nontraditional missions such as disaster relief, humanitarian assistance, and peacekeeping operations.

Individual Training

By Army regulation, the Deputy Chief of Staff for Personnel (DCSPER) is responsible for establishing policy to develop and verify military and civilian training requirements for the Total Army. During FY 1992, the Training Plans Branch, U.S. Total Army Personnel Command (PERSCOM), set and coordinated active Army training requirements for

initial entry training, special qualification identifiers, additional skill identifiers, and functional and transition training covered by almost 3,000 courses under the FY 1995 Annual Structure and Manning Decision Review. Drawing on data collected by the Total Army Centralized Individual Training Solicitation Program, the PERSCOM review confirmed training requirements for the Total Army for the first three years of the POM, translated them into viable training programs, and identified issues requiring resolution at higher levels. After a briefing on the results and the issues, a Council of Colonels matched course requirements with capacity and resources. The review and the findings of the colonels went to the General Officer Steering Committee at the Input to Training In-Process Review. This committee settled unresolved issues and approved the Army Program for Individual Training, a mission and resource document that listed the approved training programs for the first three years of the POM.

As the Army reviewed its training processes, it found a gap in instruction on its own structure and operation. The Army leadership had earlier directed the Inspector General to investigate the management processes that affected major force modernization. Reporting on the FY 1980 to FY 1982 period, the Inspector General found extensive problems in documentation and execution of force modernization and a lack of knowledge at all levels of "how the Army runs." To make the Army Staff familiar with Army procedures, HQDA instituted a mandatory Force Integration Course for its action officers, general officers, and Senior Executive Service personnel. Using the Army War College publication *Army Command and Management: Theory and Practice* as the course text, the course focused on the principal components of force integration: strategic, operational, and tactical requirements; research and development; force development; resources; personnel; and materiel. Under the direction of the Management Directorate, thirty-four functional area experts from HQDA taught the various blocks of instruction. The action officer course, offered sixteen times at the Humphreys Engineering Center, graduated 640 students. Sixty-seven students graduated from three general officer/Senior Executive Service courses conducted at the Xerox Training Center.

One major item in the Army's agenda for training was the absorption of the Army Personnel Testing Program (APT) within the Army Continuing Education System (ACES) in March 1992. The APT included six categories of personnel tests, and it served as the overseer for over 1,200 Army test control officers. The proper location of this program had been an issue since the Army of Excellence report in FY 1986 recommended its transfer to ACES, which managed, monitored, and evaluated most Army personnel tests. At the time, ACES had refused to accept the additional mission without more resources, but Army Education Centers

in the field already administered such tests as more installations, under pressure from prospective cuts, moved personnel testing under their education services officer. After the U.S. Army Personnel Integration Command merged with PERSCOM, the Chief, Education Division, proposed to absorb the APT program, including its program manager.

During FY 1992, the Army also strengthened the linkage between noncommissioned officer (NCO) education and promotion despite the turbulence created by early release programs and movements of units. In accord with proposals by various Army leadership development studies in the 1980s, the Army in 1989 had instituted an interim system requiring graduation from specified leadership training courses prior to promotion to the grades of sergeant; sergeant, first class; master sergeant; and command sergeant major. After a review of class seats and projected promotions, the Army during FY 1992 decided that the requirement of attendance at the Basic NCO Course prior to promotion to staff sergeant was feasible and approved it, effective 1 October 1992. Other steps in the overall plan were not so easy to implement. In January 1992, the selection board for sergeants major decided that the Army would automatically designate for the Sergeant Major Course any soldier tabbed for promotion to that grade. But the Army concluded that the linkage between promotions to sergeant major and the Sergeants Major Course, as well as that between promotions to sergeant, first class, and the Advanced NCO Course, could not be implemented until FY 1994.

As part of this new emphasis on NCO education, the Self Development Test (SDT) for NCOs replaced the older Skill Qualification Test (SQT), which measured soldier and NCO proficiency in their respective Military Occupational Specialties (MOS). The SDT sought to measure an NCO's leadership, ability at managing training, and MOS-specific knowledge and to distinguish differences in knowledge among NCOs. Unlike the SQT, the SDT did not attempt to predict performance. The Army initiated the SDT trial phase during 1992 and expected to link the SDT to the Enlisted Personnel Management System in FY 1994.

For certain specialties, the Army instituted training to expand the pool of qualified personnel. In January 1990, the Vice Chief of Staff, at the request of the Surgeon General and the Army Medical Department (AMEDD) Regimental Sergeant Major, approved the AMEDD Enlisted Commissioning Program (AECPP) to alleviate the shortage of nurses in the Army Nurse Corps. This program provided eligible enlisted personnel with the opportunity to complete a baccalaureate degree in nursing within twenty-four months, become registered nurses, and receive commissions in the Army Nurse Corps. All participants received normal pay and allowances. To date, 293 soldiers have been selected from 854 applicants, and 71 students have graduated. In FY 1992, 56 percent of the 309 appli-

cants and 46 percent of the 100 selectees came from nonmedical MOSs. Those selected represented thirty-three different Moss, ranging from infantry to food service. Of the 193 students in school at the end of the fiscal year, 116 were projected to graduate between December 1992 and the summer of 1993. Only eighteen enrolled students failed to complete the program, resulting in a lower than expected attrition rate of 6 percent.

AMEDD also took steps to expand its training base of military physician assistants and to relocate those specialists within the Army hierarchy. Under the Conference Report on the Defense Appropriations Act for FY 1992, the Department of Defense agreed to establish a system to train physician assistants at Saint Francis College in Loretto, Pennsylvania. Serving as DOD's executive agent for the program, the Army initiated an agreement with the college for a master's degree program in cardiovascular perfusion, emergency medicine, and orthopedics. Under a reorganization plan, physician assistants came under the Army Medical Specialist Corps (AMSC), which detailed an officer to Health Education and Training Division, OTSG, to manage AMSC and Veterinary Corps education and training.

Institutional Training

The Command and Staff College (CSC), the Army's intermediate-level staff college, teaches Army majors the operational art of warfare and prepares them for duty on brigade and higher-level staffs. Approximately 1,000 Army majors annually attend the CSC's various programs. These include the Command and General Staff College (CGSC), other service command and staff colleges, the School of the Americas, and foreign command and staff colleges around the world. The current class attendance levels represent approximately 63 percent of the Army's annual requirements for

officers educated at Military Education Level 4 (MEL 4).

During FY 1992, the Deputy Commandant of the Command and General Staff College asked the DCSOPS to conduct a new MEL 4 study to ensure that the Army continued to send the correct number and mix of officers to command and staff colleges. The resulting study kept in mind financial and personnel trade-offs between school and troop duty, Army requirements for MEL 4 officers, and the mix of officers trained through residency at the schools. It also took into account the management principles established by a 1989 study, which recommended that 50 percent of the officers eligible each year be selected for resident instruction at CSC as soon as possible, that "below-the-zone" officers receive automatic selection, and that a master's degree would not qualify an officer for MEL 4 status. The new study examined the selection rate per year group and found that a 50 percent selection rate—approximately 800 officers rather

than the historical level of 1,000 officers—was imprudent, even though it reduced the student account by 200 officers and could save the Army about \$2 million.

The Chief of Staff responded to the study's conclusions and essentially reaffirmed the status quo. He decided that the selection rate for 1993-94 would be 57 to 60 percent per year group; that CSC class size would be 905 officers for all schools, including 796 at Fort Leavenworth, Kansas, and 109 at all other schools; and that the class mix would be consistent with the current class mix. Only fifty fewer officers would be selected than before the study. Approximately the same percentage of the annual requirement would receive training through resident instruction. From General Sullivan's perspective, the plan would provide a good bridge to the post-drawdown Army.

Army downsizing posed unique problems for the Specialized Training Management Branch, PERSCOM. Because of the various individual separation programs, more than 15,000 students did not attend scheduled school classes. In anticipation of this situation, the branch overbooked classes and encouraged Army installations to utilize eligible walk-ins to meet its FY 1992 goal.

The Office of The Surgeon General made its own efforts to improve the education of Army medical officers. In April 1992, OTSG submitted to the DCSOPS an AMEDD Leader Development and Combined Arms and Services Staff College (CAS3) proposal under which all AMEDD officers would attend resident officer education courses up to at least Phase I of CAS3. Following Phase I, selected officers would attend Phase II, qualifying them for residence at CGSC. At the close of FY 1992, AMEDD was awaiting a decision from the DCSOPS. The Surgeon General's Office also requested in September 1992 that the AMEDD Center and School develop a Human Resources Managers Course to provide junior officers with an understanding of the functions of personnel staff officers prior to becoming health services personnel managers in any AMEDD unit.

Inspector General training during FY 1992 placed more emphasis on warfighting. The Inspector General's Office conducted its three-week-long inspector course ten times during the fiscal year to support inspectors general throughout the Army. A total of 609 students, including 29 from sister services, graduated from the school, which moved in August 1992 from Humphreys Engineer Center to Fort Belvoir, Virginia. The Inspector General's annual conference at Fort Belvoir in April 1992 adopted the theme "A Return to the Von Steuben Model" to stress the focus of Army inspectors at all levels on support for the Army's wartime mission. The conference emphasized such issues as force readiness and training to standards.

Training Support

Army training support encompassed the Combat Training Centers, ammunition management, training mission area funding, combined arms tactical trainers, simulations, modernization, and support by special operations forces. The Combat Training Center Program remained the focus of Army tactical unit training. The National Training Center (NTC) at Fort Irwin, California, conducted a full schedule of twelve heavy brigade task force and seven light battalion

rotations. One rotation involved special operations forces and III Corps headquarters in a contingency operations scenario. The Joint Readiness Training Center (JRTC) at Fort Chaffee, Arkansas, conducted nine rotations, eight with light brigade task forces and one with the 75th Ranger Regiment. In July 1992, the center changed from rotations of one battalion to two-battalion rotations. In all, the center trained 11 light battalion task forces, 2 Ranger battalions, and 8 special operations forces battalions during the fiscal year. As a result of the Base Realignment and Closure process, the JRTC was scheduled to move to Fort Polk, Louisiana, in 1993.

The Combat Maneuver Training Center (CMTC) at Hohenfels, Germany, assumed greater importance in training the Army's European-based units. With resources available for 231 training days, all maneuver brigades, battalions, and cavalry squadrons in USAREUR managed to rotate through the center during the fiscal year. This achievement was significant, since the Hohenfels Training Area represented the only site in Germany where units could conduct training at the battalion level. Environmental restrictions and popular opposition curtailed military maneuvers elsewhere. German, French, and Spanish units also trained at the center.

The Battle Command Training Program (BCTP) at Fort Leavenworth, Kansas, completed its first full year of operation during FY 1992, training 5 active component divisions, 3 reserve component divisions, and 3 corps. For the first time, reserve component divisions received full five-day seminars and participated in warfighter exercises. As requested by the Commander in Chief, USAREUR, BCTP linked the V Corps warfighter exercise to the Return of Forces to Germany (REFORGER) 92 exercise. In addition, the XVIII Airborne Corps carried out a special seminar to help the corps refocus on its contingency mission after the end of Operation DESERT STORM. BCTP also conducted a seminar for the United Kingdom's 3d Armoured Division.

The Army continued to improve its instrumented battlefields at the Combat Training Centers. Objective instrumentation for the CMTC was being developed by Cubic Corporation, which anticipated having an initial system ready by mid-FY 1993. An upgrade of the NTC's instrumen-

tation began during the fiscal year and will continue through the next fiscal year. The Army released the request for proposals for the JRTC's objective instrumentation and expected to award the contract early in FY 1993. Army trainers also began upgrades to the Corps Battle Simulation System, the driver for the BCTP warfighter exercises.

The Army also responded to the increasing cost of procuring training ammunition due to rising ammunition costs, the use of weapon systems that employed expensive ammunition, and the dangers from continuing to draw down war reserve stocks to support training. The Chief of Staff directed the establishment of a task force to review the Standards in Weapons Training (STRAC), war reserve, and industrial base ammunition requirements in relationship to future threats, Army roles and missions, and budget restraints. The objective was to build a munitions procurement program that maintained the Army's readiness while supporting appropriate training strategies. The review pointed out ways to reduce training ammunition requirements by 19 percent from the 1990 STRAC without affecting training readiness. Because the review focused on a training standard rather than historical usage, the revised STRAC actually increased the ammunition budget. The review also produced long-term ammunition savings through the employment of devices and simulators. A major finding of the review highlighted the use of training ammunition as the key to providing tough, realistic training for soldiers and units.

Environmental and political constraints contributed to an \$87 million funding increase for Training Mission Area (TMA) programs in the fiscal years 1994-2008 POM. Recognizing the payoff for combat readiness from previous investments in training aids, devices, simulators, and simulations, the MACOMs strongly supported the increase. The General Officer Steering Committee, Council of Colonels, and Action Officer Program Management Reviews began with the current fiscal year and POM planning cycles. The resulting revised version of AR 350-38, *Training Device Policy and Management*, planned for completion and distribution in FY 1993, will align the Army's policy with guidance in the DOD 5000-series of directives. In addition, a prioritization panel met in May 1992 and developed the Training Mission Area Priority List for the fiscal years 1996-2010 POM process.

The Army continued to seek funding for the Combined Arms Tactical Trainer (CATT) program. CATT uses networked

simulation technology that, in combination with maneuver training in the field, improves collective task training from the crew through battalion echelons. It tests maneuver and synchronization as well as command and control. The Close Combat Tactical Trainer will be the lead CATT program. Two other branch trainers, the Aviation Combined Arms Tactical Trainer and the Air Defense Combined Arms Tactical Trainer, were in the requirements development

process. The Army may expand this trainer to meet battalion or task force training requirements.

The Army worked on improving its family of simulations during the fiscal year. JANUS (A) was standardized as the battle focused trainer for the Army, and the Army also upgraded the Corps Battle Simulation System, which it plans to link with Combat Service Support Tactical Training Simulation in FY 1993 to support the Louisiana Maneuvers. Some simulations broke new ground during the fiscal year. The Eighth U.S. Army conducted ULCHI FOCUS LENS 92 as the first theater-level simulation exercise. The Department of the Army supported this exercise with funding and helped coordinate the loan of additional hardware from other MACOMs. REFORGER 92, another theater-level operation, represented the first large-scale employment of standard simulation models. It linked the Warrior Preparation Center in Europe to the National Simulation Center, the Battle Simulation Center at Fort Carson, and Air Force and Navy simulations. These two exercises heralded a new era as the commanders in chief (CINCs) became warfighters rather than exercise directors and hosts.

The fiscal year also saw the resurgence of the Department of the Army in the modernization training arena. During fiscal years 1989-91, the Army Materiel Command (AMC) had assumed the lead in New Equipment Training (NET) issues. Program executive officers and program managers (PEO/PM) could now make decisions to fund new requirements for training support. But ignorance of the amount of PEO/PM training support dollars caused confusion within the NET community. This issue remained unresolved pending action by PEOs/PMs to show, by funding elements, what monies were available for training requirements. In May, the Department of the Army Consolidated Training Support Work Group and NET Managers Conference allowed the major materiel developers (AMC, Information Systems Command, and the U.S. Army Medical Materiel Command) and every MACOM except Eighth U.S. Army to discuss the impact of the drawdown on modernization training and to review the numerous NET issues that had been deferred until resolution by the Department of the Army.

In the support of exercises, Army special operations forces played a critical role throughout the fiscal year. They deployed mobile training teams and site surveyors to all theaters on all continents. In addition, Special Forces personnel supported Combat Training Centers and their programs, assisted federal and state drug enforcement agencies, and provided mobile training teams to aid the national counterdrug strategy. Army special operations forces participated in 1 National Training Center rotation, 9 Joint Readiness Training Center rotations, and 12 Battle Command Training Program exercises. Joint Readiness Training Center participation

ranged from A-teams to B-teams with battalion and group operational bases, civil affairs and psychological operations support, and helicopter support. Ranger battalions took part in both National Training Center and Joint Readiness Training Center rotations.

Unit Training

During FY 1992, the Army made great strides toward a conceptual model, Combined Arms Training Strategy (CATS), to integrate components of the Army training system. CATS described a separate strategy for different units, matching training events and associated training resources with the "mission-essential tasks" of the units. Through CATS, trainers believed that each unit should be able to achieve proficiency. By the end of FY 1992, the Army had published CATS for most combat arms units. CATS for combat support and combat service support units remained under study.

Major Exercises

Army exercises in FY 1992 trained commanders, staff, and units to execute plans and apply doctrine, tactics, techniques, and procedures in a simulated wartime operating environment. The Army participated in unilateral, joint, and combined exercises. Unilateral exercises generally were conducted by the Army at the corps level and below. Most joint and combined exercises were coordinated and sponsored by the Joint Staff or one of the unified commands under the auspices of the Chairman, Joint Chiefs of Staff (CJCS), Exercise Program, which conducted exercises to train American forces to execute war plans of the warfighting CINCs. The level of Army support for these exercises depended upon the availability of support funds and forces. The Army conducted fewer large-scale field training exercises (FTX) due to political considerations, budget constraints, and reduced force structure. Trainers continued to increase the number of smaller, regionally oriented exercises and pursued the refinement of computer-assisted exercises (CAX).

During FY 1992, the Army participated in several significant CJCS exercises worldwide. Of these, Commander in Chief, Europe (CINCEUR), sponsored a large proportion. DISPLAY DETERMINATION is a large-scale joint and combined exercise conducted each October in the Mediterranean to test the capability to resupply and reinforce the NATO Southern Region. In FY 1992, the primary Army units included the Southern European Task Force (SETAF) headquarters and a battalion task force from the South Carolina Army National Guard's 218th Separate Infantry Brigade. CINCEUR also sponsors DRAGON HAMMER, a joint and combined FTX to demonstrate American capability and resolve to rein-

force the NATO Southern Region by air, sea, and rail. The 1992 edition, from 6 to 20 May, involved the V Corps, the SETAF headquarters, and the North Carolina Army National Guard's 30th Separate Infantry Brigade.

As in past years, CINCEUR again sponsored REFORGER, an exercise to test the deployment of forces from the continental United States to Europe. In recent years, CINCEUR has considerably reduced the scope of the maneuver. The 1992 version involved the use of computers to train brigade and higher level headquarters in joint and combined warfare. As part of the maneuver, from 26 September to 9 October in-theater units joined formations from the continental United States for Command Post Exercise (CPX) CERTAIN CARAVAN. This army group-level CPX used advanced computer simulation techniques to train both a Central Army Group-level staff and two multinational NATO corps in a joint environment. The exercise used an Opposition Force (OPFOR) from Fort Leavenworth and the V Corps' Battle Command Training Program. Army units participating in CERTAIN CARAVAN included the V Corps headquarters, the 3d Infantry Division (Mechanized), the 1st Infantry Division (Mechanized), the 30th Separate Armored Brigade, and the 7th Infantry Division (Light).

U.S. Southern Command (SOUTHCOM) also sponsored several major exercises during FY 1992. FUERTES CAMINOS are annual joint and combined engineer construction exercises conducted in several countries in the SOUTHCOM area of operations to contribute to nation building or support a subsequent exercise phase. During the FY 1992 version, active and reserve component engineer units worked on construction projects in Panama, Honduras, and Bolivia. FUERZAS UNIDAS, a series of small-scale CPXs or FTXs in several South American countries, are planned and conducted by SOUTHCOM and the host country using PANTHER (low-intensity conflict), JANUS (platoon/company-level training), and FIRST BATTLE (small unit) simulation models. During FY 1992, FUERZAS UNIDAS exercises took place in Argentina, Chile, Colombia, Ecuador, Paraguay, Peru, and Uruguay. SAND EAGLE is an FTX sponsored by Commander in Chief, Southern Command, to improve responsiveness in a crisis. The 1992 version took place at Forts Polk, Louisiana, and Stewart, Georgia, between 25 and 28 July 1992 and involved the XVIII Airborne Corps headquarters, 82d Airborne Division, 24th Infantry Division (Mechanized), 101st Air Assault Division, 10th Mountain Division, and 5th Infantry Division (Mechanized).

Other unified commands also sponsored major exercises. OCEAN VENTURE, a large-scale FTX, was conducted by U.S. Atlantic Command (LANTCOM) from 1 to 20 May 1992 in the eastern United States to train USCINCLANT's staff and component commands in planning and conducting joint rapid deployments and tactical operations. The XVIII

Airborne Corps headquarters, 82d Airborne Division, 101st Air Assault Division, 24th Infantry Division (Mechanized), and 10th Mountain Division represented the Army, which supplied 21,000 of the 47,150 U.S. personnel. INTRINSIC ACTION, an FTX sponsored by U.S. Central Command in Kuwait, started on 22 August 1992 when a battalion task force of the 1st Cavalry Division deployed to conduct small-unit training. ULCHI FOCUS LENS, a large-scale joint and combined CPX conducted by the Commander, U.S. Forces, Korea, from 17 to 30 August 1992, made extensive use of enhanced computer simulations up to the theater level. Monitored closely by planners working on the Louisiana Maneuvers, the exercise involved the I Corps headquarters, 25th Infantry Division (Light), 6th Infantry Division (Light), 101st Air Assault Division, 4th Infantry Division (Mechanized), and 311th Corps Support Command. RENDEZVOUS, a joint and combined FTX conducted at Fort Wainwright, Alaska, and in Alberta, Canada, sought to improve cooperation between U.S. and Canadian forces. The primary Army participant was the 194th Separate Armored Brigade.

In the post-Cold War era, faced with a new national security strategy and declining resources, the Army faced a challenge in balancing force development, mobilization, and training. Army leaders were committed to maintain readiness at the highest possible level. Through such innovations as the Louisiana Maneuvers, a revised AirLand Battle doctrine, IAMS, AMOPES, and education and training programs, the Army sought to preserve its ability to project power and presence around the globe in support of U.S. foreign policy objectives.

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Operational Forces

Through its major troop units, the Army in FY 1992 rendered its most visible service to the nation, whether by deploying forces to troubled areas or by maintaining a high level of readiness to deter potential aggressors. Army forces deterred aggression and defused crises by forward presence, security assistance, peacekeeping, and support to civil authorities. Army units overseas demonstrated the nation's commitment to its allies. They also cultivated relationships that promoted understanding and made available land bases from which the Army could project power as necessary. The Army carried out these tasks in the midst of the largest drawdown in force structure and installations since the Vietnam War, a process that resulted in a high turnover of personnel and strained the ability of many units and facilities to maintain routine operations. The Army's performance of these missions, without fanfare, almost every day throughout the fiscal year demonstrated that even in peace the Army required a high standard of readiness.

The U.S. Army in the Continental United States

Forces Command

As forward-deployed forces shrank, the Army increasingly relied on the readiness of units based in the continental United States to respond to crises. Forces Command (FORSCOM) at Fort McPherson, Georgia, controlled 80 percent of the Army's total ground combat strength and was responsible for training and deploying forces based within the continental United States. Operating eighteen major and seventeen lesser installations, FORSCOM had authority over active and reserve component forces. FORSCOM units included the nation's only airborne and air assault divisions, the 82d Airborne Division and 101st Airborne Division (Air Assault), as well as two light divisions, ten heavy divisions, two cadre divisions, and hundreds of logistics and service units to support this combat force.

The U.S. Army based its power projection force on FORSCOM formations, with additional "follow-on units" serving as reinforcements.

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The I and III Corps and the XVIII Airborne Corps represented FORSCOM's contribution to the active Army's power projection or contingency force, which could draw on an airborne division, an air assault division, a light infantry division, and two armored or mechanized infantry divisions. A National Guard brigade would reinforce each of the contingency force's heavy divisions. Three additional active Army heavy divisions provided the early reinforcement for the deployed contingency force. Each division contained two brigades and would "round out" its organization with a National Guard brigade in time of crisis. Reserve component units remaining in FORSCOM will contribute a light division, five heavy divisions, and two cadre divisions as a sustainment force for possible conflicts.

Two of FORSCOM's corps had long enjoyed status as key elements of the Army's contingency force. The XVIII Airborne Corps stationed at Fort Bragg, North Carolina, deployed forces to Panama during Operation JUST CAUSE, and in 1990 it helped safeguard Saudi Arabia from possible Iraqi invasion during Operation DESERT SHIELD. During Operation DESERT STORM, the corps elements formed the left hook of the armored thrust which defeated the Iraqi Army and helped liberate Kuwait. The III Corps at Fort Hood, Texas, enjoyed the reputation as FORSCOM's armored force headquarters. Although the headquarters did not deploy during the Gulf War, the corps had contributed the 1st Cavalry Division, the 1st Infantry Division, a brigade of the 2d Armored Division, and numerous support units to DESERT STORM.

During the year, the I Corps at Fort Lewis, Washington, devoted greater emphasis to its role as a contingency force. The I Corps was the corps headquarters that would deploy rapidly in response to any contingencies in the Pacific. Its main

combat unit, the 7th Infantry Division (Light), began a change of station from Fort Ord, California, to Fort Lewis during the fiscal year. The Base Realignment and Closure Commission had decided to close Fort Ord, and the Army wanted a full active division at Fort Lewis after the inactivation of the 9th Infantry Division. At Fort Lewis, the 7th Division joined the 199th Infantry Brigade (Motorized), which had replaced the 9th Infantry Division there in early 1991. Other major headquarters units at Fort Lewis included the 35th Air Defense Artillery Brigade and the 201st Military Intelligence Brigade. Although they were part of the U.S. Army Special Operations Command, the 1st Special Forces Group and the 2d Battalion, 75th Ranger Regiment, also were stationed at Fort Lewis with the I Corps. The corps' headquarters and headquarters battery was an Army National Guard unit based in Salt Lake City, Utah.

Given the lessons of the Gulf War and the emerging national defense strategy, the Army decided to increase the number of active Army units

permanently attached to the I Corps so that it could deploy for contingencies on short notice without the need for a reserve component mobilization. Since the Army was reducing its troop strength in Europe and needed to station many of its new or returning units in new locations, it sent many of those units to Fort Lewis. These additional units included the 555th Engineer Group, which the Army activated in January 1992 using assets from the European drawdown, and the 210th Field Artillery Brigade, which returned from Germany in February 1992. The 2d Armored Cavalry, less personnel and equipment, also transferred from Europe to Fort Lewis, where it will eventually reorganize as a light armored cavalry regiment.

Special Operations Forces

The U.S. Army Special Operations Command (USASOC) at Fort Bragg, North Carolina, is the Army component of the U.S. Special Operations Command. As a MACOM, it commands all active Army and Army Reserve special operations forces (SOF) in the continental United States, except for National Guard SOF, which remain under state control until federalized. USASOC's mission is to train, equip, organize, and sustain Army special operations forces in support of theater CINCs. USASOC forces include Special Forces, Rangers, special operations aviation, civil affairs, and psychological operations units. USASOC is organized into four major subordinate commands: the John F. Kennedy Special Warfare Center and School, the U.S. Army Special Forces Command, the U.S. Army Civil Affairs and Psychological Operations Command, and the U.S. Army Special Operations Integration Command, all stationed at Fort Bragg.

The U.S. Army Overseas

U.S. Army, Europe

The U.S. Army, Europe (USAREUR), and Seventh Army, with its headquarters in Heidelberg, Germany, is the Army component of the U.S. European Command (USEUCOM). USAREUR provides the North Atlantic Treaty Organization (NATO) and the United States with forward-deployed forces that can move to trouble spots inside and outside Europe. Headquarters, V Corps, stationed at Frankfurt, Germany, controls USAREUR's major combat units, including the 1st Armored Division at Bad Kreuznach, the 3d Infantry Division (Mechanized) at Wuerzburg, and the 11th Armored Cavalry Regiment at Fulda. Support for the V Corps comes from the 41st Field Artillery Brigade, the 11th and 12th Aviation Brigades, and air defense artillery, engineer, military police, personnel, signal, and support commands or brigades. The Southern European Task

Force (SETAF), situated at Vicenza, Italy, contains the reinforced 3d Battalion, 325th Infantry, and additional support units. The Berlin Brigade, with about 2,600 soldiers, maintains its presence in the recently unified city of Berlin pending the departure of the last Russian troops. USAREUR also includes the 32d Air Defense Command, 1st Personnel Command, 3d Corps Support Command, 21st Theater Army Area Command, 7th Medical Command, and other units.

At the start of the fiscal year, many of USAREUR's units were serving in the Middle East. A task force of 1,470 soldiers, largely from the 3d Battalion, 77th Armor, was stationed in Kuwait as part of Operation POSITIVE FORCE to deter Iraq from breaking its cease-fire agreements and reentering Kuwait. In northern Iraq, USAREUR troops participated in Operation PROVIDE COMFORT, a humanitarian relief effort to aid a local Kurdish population that had been brutalized by the Iraqi government. The United States scaled back the effort to provide relief and secure refuges for the Kurds after the 6th Battalion, 502d Infantry, left in October 1991, but USAREUR aviation units remained to carry out the mission. About the same time, on 26 September 1991, the 32d Air Defense Command sent two Patriot missile battalions to Saudi Arabia. Beginning in January 1992, 600 additional USAREUR soldiers joined these air defense units to maintain the American presence in that critical area.

USAREUR also enlarged its outreach program to support African nations. A mobile training team from the 21st Theater Army Area Command deployed to Senegal from January to April 1992, and a company from SETAF's 3d Battalion, 325th Infantry, went to Botswana to train with Botswana Defense Force commandos while its supporting medical personnel took part in medical civic action programs. USAREUR hopes to continue these types of missions, which benefit all parties.

Although the overwhelming emphasis of the year in Europe was on reduction of organizations, USAREUR did create twelve TOE area support groups as regional administrators for its thirty-nine military communities. The area support groups released tactical commands from routine administration and allowed them to focus on the readiness of their other units. Newly activated base support battalions, controlled by the area support groups, provided services to their local soldiers, civilians, and dependents.

Despite the turmoil of the drawdown, USAREUR continued its readiness and training missions. Modernization within USAREUR proceeded apace with the continued introduction of the M1A1 Abrams tank, the M2A2 Bradley Fighting Vehicle, and M3A2 Bradleys into the V Corps' armor and infantry battalions and divisional cavalry squadrons, respectively. With regard to training, USAREUR sought more efficient means, notably automation, to conduct exercises, such as REFORGER, DISPLAY

DETERMINATION, and DRAGON HAMMER. As part of NATO strategy, U.S. Army forces remaining in Europe will participate in several evolving multinational formations, including the Allied Command Europe Rapid Reaction Corps and three Main Defense Force multinational corps, pairing American units with German and Belgian troops.

U.S. Army, Pacific

As the Army's major command responsible for Asia and the Pacific Ocean areas, the U.S. Army, Pacific (USARPAC), with its headquarters at Fort Shafter, Hawaii, was designed to promote regional stability and protect American and allied interests in the area. This mission was a difficult one given the region's vast expanse and diversity. USARPAC's geographic purview contained more than half of the earth's surface, over forty countries, and more than half of the earth's population. Economic and historic relations tied the United States to nations such as the Philippines and major trading partners such as Japan, South Korea, and China. USARPAC units strengthen ties with the area's friendly nations in part through joint and combined exercises that foster the compatibility of forces.

USARPAC concentrates its combat power in two light divisions: the 25th Infantry Division (Light) at Schofield Barracks, Hawaii, and the 6th Infantry Division (Light) at Fort Wainwright, Alaska. Half an ocean closer than units stationed in the continental United States, the two light divisions can move much faster to potential trouble spots. An airborne unit of the 6th Infantry Division—the 1st Battalion, 501st Infantry—provides the capability for a forced entry should the need arise. The 6th Division's third "roundout" brigade, the National Guard's 205th Infantry Brigade (Light), would deploy from Fort Snelling, Minnesota, to reinforce the division in an emergency. The U.S. Army, Japan/IX Corps, stationed at Camp Zama, Japan, coordinates the joint training of American and Japanese forces.

In an effort to improve command relationships, the Army brought all Army garrison and support resources in Hawaii

under a new U.S. Army, Hawaii (USARHAW), headed by the commanding general of the 25th Infantry Division. The Army created USARHAW "to streamline relationships among the support and supported elements . . . and increase the responsiveness of base and installation support to the deployable elements of the command." The new organization consolidated command of the 25th Infantry Division; U.S. Army Support Command, Hawaii; U.S. Army Law Enforcement Command; and 45th Support Group. Before USARHAW each of these commands was directly responsible to the commanding general of USARPAC.

After prolonged negotiations to resolve logistical and support issues, the Army assumed control of Oahu's Wheeler Airfield from the Air Force on 1 November 1991. In return, the Army transferred Fort Kamehameha

to the Air Force. Wheeler Airfield now serves as the base for almost all Army aviation units in Hawaii, as well as the location of many family housing units.

Fiscal year 1992 was an eventful year for USARPAC. In December 1991, the command hosted President George Bush and Secretary of Defense Richard Cheney when it coordinated key events in the fiftieth anniversary commemoration of the Japanese attack on Pearl Harbor. During the year, USARPAC units conducted relief operations after Hurricane Iniki in Hawaii and Typhoon Omar in Guam. USARPAC soldiers also helped plan or participated in joint or international training exercises, such as the annual COBRA GOLD exercise in Thailand, BALIKATAN in the Philippines, NORTH WIND and KEEN EDGE in Japan, KANGAROO in Australia, and ULCHI FOCUS LENS in Korea.

U.S. Forces, Korea/Eighth Army

To deter North Korean aggression, the Eighth Army remained at the station it has occupied since the Korean War. Although North and South Korea signed nonaggression and denuclearization agreements in January and February 1992, many details still need to be negotiated before full implementation of the agreements. North Korean armed forces rank as the fifth largest in the world, and most of them are positioned close enough to the demilitarized zone (DMZ) to threaten the security of South Korea. The DMZ, like the now destroyed Berlin Wall, divides two peoples of common heritage. Because North Korea is still Communist, the zone is often referred to as the Cold War's last barrier.

During the fiscal year, South Korea accepted increased responsibility for the defense of the Korean peninsula. Under the Nunn-Warner initiative instituted in 1990, the United States and the Republic of Korea have sought a revision of traditional alliance command arrangements, permitting South Korean officers to assume more critical leadership positions. In June 1992, the two countries dissolved the Combined Field Army and transferred its responsibilities to the South Korean Army.

U.S. Army, South

The United States Army, South (USARSO), with headquarters at Fort Clayton, Panama, is the Army component of the U.S. Southern Command (SOUTHCOM). Although it covers a large geographic area, USARSO can call on only a relatively modest active force of nearly 7,000 soldiers stationed at various posts throughout Panama. Its principal combat command element, the 193d Infantry Brigade, contains as its main combat units the 5th Battalion, 87th Infantry (Light), at Fort Davis on the Caribbean Sea, and the 1st Battalion, 508th Infantry (Airborne), at Fort Kobbe on the Pacific side of the canal. Additional military police, intelligence, medical,

aviation, engineer, signal, and support troops provide a balanced force capable of defending the Panama Canal Zone or carrying out important training and assistance missions in the developing democratic nations of the region. During FY 1992, USARSO units pursued active training programs in many Latin American nations to foster friendly relations with Latin American armies and demonstrate American support for friendly governments in the "war on drugs." American troops on field exercises also helped local authorities trying to track illegal drug activities.

The Army's efforts to support the development of Latin American democracies assumed added importance as the 31 December 1999 deadline approached for the transfer of the Panama Canal to Panama. In August 1989, the Secretary of Defense had designated the Department of the Army as the executive agent for Panama Canal Treaty implementation, and the Army had established the Treaty Implementation Plan Agency (TIPA) under the Deputy Chief of Staff for Operations and Plans. Using input from TIPA, the Office of the Secretary of Defense (OSD), the Joint Staff, and the various services, SOUTHCOM had developed a plan to accelerate treaty implementation. This Panama Canal Treaty Implementation Plan (PC TIP) provides the basis for measuring progress in meeting treaty implementation requirements. It guides USARSO in its planning for the departure of American troops from Panama and its assistance to the Panamanians in assuming responsibility for the canal.

The transfer encountered some problems during FY 1992. The United States had already begun to turn over licensed facilities to the Government of Panama. The first nonlicensed transfer involved a U.S. Navy-operated petroleum storage installation known as the Gatun Tank Farm. This transaction was supposed to have taken place on 1 October 1991 but did not actually occur until 2 December 1991. This delay seemed an omen of future difficulties that the Panamanians might experience as they assume responsibility for the defense of additional sites. To avoid some of these problems, TIPA, SOUTHCOM, and OSD worked to determine the technical assistance that the United States can provide to the Government of Panama to facilitate the exchange and better coordinate the planning between the two governments.

On 30 September 1991, a military coup deposed Jean-Bertrand Aristide as Haiti's democratically elected President. In response, the Bush administration on 4 October froze Haitian government assets in the United States, and four days later the Organization of American States encouraged nations to freeze Haitian assets and declare an embargo. After consultations with Aristide, who had fled to the United States, President Bush on 30 October ordered an almost complete ban on American trade with Haiti. The trade ban, which would take effect on 5 November, exempted only humanitarian and basic food products.

Even before the coup, growing numbers of Haitians fled the country in boats and sought refuge in the United States and Caribbean nations. Many Haitians drowned when their small, overcrowded boats overturned or sank. Fearing that allowing the refugees into the United States would encourage thousands more to leave Haiti, the Bush administration had directed the interception and return of those Haitians who were economic rather than political refugees. After the coup, the United States suspended this policy, and Coast Guard ships at Guantanamo Bay, Cuba, temporarily held the Haitians until each had been screened by the Immigration and Naturalization Service (INS). By 18 November, only 53 of the more than 1,700 Haitians at Guantanamo Bay had received political asylum, and the United States again began to return refugees to Haiti. This reversion, however, brought public criticism and various court rulings that prohibited forced repatriation. The number of Haitians in American custody overwhelmed the Coast Guard's temporary facilities, and DOD was asked to provide assistance.

Beginning 22 November, Joint Task Force Guantanamo, consisting of representatives from all of the armed services, provided humanitarian assistance to the Haitian refugees. It established a series of tent cities and camps at the Guantanamo Bay Naval Base to house the more than 4,000 Haitians in custody by the end of November. During Operation GUANTANAMO BAY, Special Forces, civil affairs, military police, engineer, and other support personnel helped administer the camps. Soldiers also provided Haitians with medical care while providing logistics and communications support to the joint task force's operations.

The flood of refugees into Guantanamo Bay caused the Bush administration to take more drastic measures. On 31 January 1992, the Supreme Court overturned lower court repatriation bans and ruled that the United States could forcibly return Haitians to their homeland. Coast Guard ships began to return refugees intercepted at sea except for those eligible to proceed to Guantanamo for an INS hearing. Still, the camps expanded, in effect creating a small city with its own problems. By February 1992, about 12,000 Haitians had found shelter at Guantanamo Bay, half of them at Camps McCalla and Bulkeley, which were established by the 96th Civil Affairs Battalion. By April, the main medical facility had cared for 20,000 patients, many with pregnancies and rare diseases. By May, the camps had far surpassed their space limit of 12,500, and during the first three weeks of the month the Coast Guard picked up another 10,000 Haitians.

Faced with limited space and resources, President Bush on 24 May issued Executive Order 12807, instructing the Coast Guard to intercept and return the Haitians without permitting them to stop at Guantanamo and file for political asylum in the United States. The Army's refugee work at Guantanamo, however, is

scheduled to continue until the INS processes all of the refugees still housed there.

Intelligence Activities

As with the rest of the Army, sweeping change affected military intelligence (MI) activities during the fiscal year. The Deputy Chief of Staff for Intelligence, Lt. Gen. Ira Owens, perceived a revolution in MI with the demise of the Soviet threat that had dominated intelligence operations for almost five decades. He accordingly expected his organization to transform all aspects of its approach to intelligence, from equipment, organization, and electronic warfare to the way intelligence officers thought about the MI process. In particular, the intelligence community had to redesign its methodology to support the Army's reaction to such current problems as global arms sales, global telecommunications, the potential for violent nationalism, terrorist groups, and drug cartels.

The changes in threats, along with the lessons learned from Operations JUST CAUSE and DESERT STORM, prompted the Secretary of Defense, members of Congress, and the Director of Central Intelligence to review intelligence functions, organizations, and concepts. The initiatives from these reviews would hopefully streamline intelligence gathering and dissemination for national decision makers, as well as the commanders of unified and specified commands. As a result of these reviews, the Army anticipated that a large part of its intelligence organization would probably become more integrated into the joint community, given the emphasis on consolidation, centralization, and joint operations. The Secretary of Defense, for example, ordered the creation of joint intelligence centers to support selected commanders. These centers will receive resources from all intelligence organizations as the Army consolidates its specialized expertise with that of the other services.

Considering support to operations to be its most important priority, the Army's intelligence community centralized that support at a higher level. With the national military strategy's change in emphasis from forward deployment to power projection, the intelligence gatherers lost the advantage of advanced forces that knew their enemy because of proximity. Forward deployment in the area of possible operations had permitted these forces to concentrate their organic intelligence assets on that adversary in peacetime. Under the new strategy, the Army planned to stress intelligence gathering at a higher level—national, service, and theater—not only during peacetime but also through the alert and deployment stages. In some cases, this emphasis may also continue through contact with enemy combat forces. The new joint intelligence centers at the specified and unified commands will play a major role in the new approach.

Using lessons learned from the Gulf War and Operation JUST CAUSE, as well as from previous studies of future Intelligence and Electronic Warfare (IEW) equipment and organization, the Army's intelligence community reevaluated itself under MI Relook. This self-examination acknowledged that the new emphasis on power projection required timely intelligence. It also concluded that the intelligence community needed to enhance reserve component capabilities, especially in unique language and technical skills, as well as improve the mix of intelligence disciplines in MI communications, electronic warfare, and intelligence brigades and battalions. The study pushed for the Army to guarantee the fielding, integration, and compatibility of vital IEW systems in the tactical units, and it argued for the development of an MI brigade within the Intelligence and Security Command to support contingency operations. At the close of the fiscal year, the Army intelligence leadership was addressing these issues.

Nuclear, Biological, and Chemical Issues

DESERT SHIELD and DESERT STORM helped spur a renewed interest in nuclear, biological, and chemical (NBC) weapons, even as the end of the Cold War helped accelerate their reduction. The Army prepared *U.S. Army Report to*

the House Armed Services Committee, *Program To Improve Chemical Warfare Protection and Training* and the SAC Report on NBC Defense. The Army's Office of The Surgeon General headed the NATO effort to draw up *Planning Guide for the Estimation of Battle Casualties (Nuclear)* (NATO AMEDP-8), an improved medical manual for nuclear casualties, and also assisted in the preparation of NATO *Handbook on the Medical Aspects of NBC Defensive Operations* (NATO AMEDP-6), which the United Kingdom forwarded for national ratification.

During FY 1992, the Office of the Deputy Chief of Staff for Operations, the U.S. Army Chemical School, and the Chemical Research, Development, and Engineering Center (CRDEC) produced a new blueprint for improving the Army's NBC defense, use of smoke and other obscurants, and capabilities with flame and other incendiary weapons. The plan addressed doctrine, training, and leader development issues, as well as organization and material requirements for the NBC mission during the period 1994-2008. The Chief of Staff approved this NBC modernization plan in December 1991.

Nuclear Capability Drawdown

On 27 September 1991, President Bush announced new initiatives to eliminate ground-launched, short-range nuclear weapons. The Army rewrote its existing Army Nuclear Capabilities Drawdown (ANCD) Plan of July 1991 to comply with the President's initiatives, and the DCSOPS approved the new ANCD on 15 December 1991. The new plan provided

comprehensive guidance on the reductions in the service's nuclear mission, force structure, training, research and development, and logistics. The Nuclear Division, Space and Special Weapons Directorate, ODCSOPS, retained its role as the proponent for the return of nuclear weapons to depots in the United States.

The return of Army nuclear weapons to the United States proceeded apace in 1992. By July, well ahead of schedule, the Army had retired all of its nuclear weapons outside the continental United States to depots within the country without incident or threat to safety. With the completion of this process, the Army inactivated most of its nuclear-related force structure and ceased almost all nuclear-related logistics functions. Most of the remaining logistics functions concerned the storage and limited maintenance requirements of Army nuclear weapons. These activities will continue until the Army can transfer its remaining weapons to the Department of Energy for dismantling and destruction.

At the close of the fiscal year, the Army was identifying the nuclear functions and expertise required for the future needs of the service. The Army will have to continue its nuclear functions in such areas as research and development, NBC defense, the survivability and improved safeguarding of Army materiel, nuclear fire support coordination requirements at and above the corps level, and medical research. A TRADOC review of nuclear-related courses will determine the best method of meeting future educational requirements on nuclear issues. The Army must still decide on personnel issues, such as the retention of functional area 52 (nuclear weapons) for commissioned officers, but it will eliminate nuclear specialties for enlisted men and warrant officers.

Biological Defense

DESERT STORM and numerous multiagency reviews of American biological and chemical defense policies highlighted the need for a DOD medical policy on threats from biological warfare agents. In early May 1992, the Assistant Secretary of Defense for Health Affairs (ASD [HA]), in coordination with the Army Surgeon General's Office, proposed an individual biological defense policy to the Assistant Secretary of Defense for International Security Policy. After review by the services and their Surgeons General, the Joint Staff, and other DOD agencies, the final draft of the policy—now titled the DOD Directive on Immunization Program for Biological Warfare Defense—was passing through the approval process at the end of the fiscal year. The proposed directive clearly establishes procedures and requirements for immunization.

The Joint Service Committee on Biological Defense (JSCBD), established to address deficiencies in biological defense (BD) related to Operation DESERT STORM, continued its efforts to develop a DOD

Biological Defense Plan. Four work groups—Vaccine Production and Policy, Physical Protection, Detection, and Decontamination—developed proposals. The Army took the lead on the Vaccine Production and Policy Work Group, chaired by a representative of the Office of The Surgeon General. This work group verified the findings of earlier task forces that the industrial base for vaccines against biological weapons was "cold," that a DOD policy with specific recommendations was necessary, and that DOD needed to establish a vaccine production facility to protect the force from current and future agents. The Chief of Staff forwarded the plan to the Chairman, Joint Chiefs of Staff, for action on 24 January 1992.

Upon the recommendation of the Chairman, the Deputy Secretary of Defense directed that the BD issue be considered by the Joint Requirements Oversight Council (JROC). The JROC established a Special Study Group on Biological Defense, which reported back to the JROC on 23 July and 20 August 1992. The group confirmed the immediate need for vaccines and a vaccine production facility and drafted a Joint BD Mission Needs Statement. The JROC approved the statement and forwarded recommendations similar to the DOD BD Plan to the Defense Acquisition Board for consideration.

Working independently, offices contributing to the Planning, Programming, Budgeting System (PPBS) had also identified the need to strengthen the BD program. As a result, the Deputy Secretary of Defense Program Decision Memorandum for fiscal years 1994-99 included \$354 million to improve medical NBC readiness. This sum included \$210 million for a vaccine production facility, \$66 million to field 341 Chemical Biological Protected Shelter systems that protect medical units in the contingency corps, and an additional \$78 million to enhance medical NBC readiness under the existing program.

While various reviews pointed out the need for strengthening BD, research on biological defense continued. The Office of The Surgeon General reached a contract with the University of Minnesota for the production of botulinum antitoxin. It also initiated a field study to examine soldiers vaccinated with BD products during Operation DESERT STORM. The study results would hopefully pinpoint reactions to anthrax and botulinum vaccines and determine if service members previously immunized required only a booster or the entire immunization series. Furthermore, the Army hoped that the study would show whether the immunization series could be shortened or otherwise modified to provide BD protection prior to deployment.

Chemical Warfare

The 1986 National Defense Authorization Act directed DOD to destroy the complete unitary chemical stockpile by 31 July 1999. The Chemical

Demilitarization Program was based on that act. As the executive agent for DOD, the Army provided policy, direction, and oversight for both the Chemical Stockpile Disposal Program and the Non-stockpile Chemical Materiel Program. The service also assumed responsibility for the safe and economical disposal of lethal and incapacitating chemical warfare agents and munitions. It worked to identify, recover, and safely dispose of contaminated containers, buried chemical weapons and wastes, range recovered munitions, and old production facilities, such as the binary production plants. One disposal plan involved on-site incineration of the stockpile on Johnson Atoll in the Pacific Ocean and incineration of the stockpiles at each of the eight storage sites in the continental United States.

The management of chemical resources became a major concern after a report by the General Accounting Office cited widespread problems in Decontamination Solution #2 (DS2) management and storage. In response, the Army implemented a three-phase plan to consolidate wholesale stocks, war reserves, and most unit basic loads at the Seneca Army Depot in New York and the Pine Bluff Arsenal in Arkansas. The first phase, recovery of DS2 stocks from Southwest Asia, and the second phase, consolidation of all wholesale and war reserve stocks, are complete. The final

phase, consolidation of the DS2 basic loads in the continental United States, continues. Consolidation will greatly reduce the adverse impact on safety and the environment without losing DS2's benefits as an effective chemical agent decontaminant.

Other accomplishments during the fiscal year included the deployment of new systems for chemical warfare. During FY 1992, the Army introduced the M157 smoke generator system into active Army units. Additional purchases of the M157 system in FY 1994 will enable the Army to issue it to units with a lower priority for deployment overseas. In the meantime, the development of the XM56 turbine smoke system, a replacement for the M157 in both mechanized and motorized platforms, continued, and the Army anticipated shipment of the XM56 to units to begin in FY 1996. The fielding of the XM93 NBC Reconnaissance System (FOX NBCRS), an armored vehicle for NBC detection and warning, also proceeded following its initial service during DESERT SHIELD/DESERT STORM. A projected total of 103 Foxes will join the Army by the end of FY 1993. During FY 1992, the Army began issuing the M17 Lightweight Decontamination System (LDS). By September 1992, all chemical companies in the XVIII Airborne Corps had received their LDSs. The Army reached a contract with ALL BANN, Inc., in April 1992 for the purchase of 500 more LDSs, with another 500 to be purchased by the Marine Corps.

The Army also began fielding the new M40 NBC Protective Field Mask and the new Chemical Protective Undergarment (CPU). The M40 will pro-

vide enhanced chemical protection, and it fits better than the M17A1 mask. The Army first distributed the item to its Chemical Surety Sites and the 82d Airborne Division. In March 1992, the Army type classified a new lightweight chemical protective suit, the Chemical Protective Undergarment, for SOF, and in September, it did the same for armored crewmen. Soldiers wear the CPU, which weighs 40 percent less than the Chemical Protective Battle Dress Overgarment (BDO), under the regular duty uniform—BDU for SOF personnel, and combat vehicle crew overalls for armor crews.

U.S. Army Space Command

The U.S. Army Space Command (USARSPACE), located in Colorado Springs, Colorado, is the Army component of the U.S. Space Command. Within the Army, it started the fiscal year as a field operating agency of ODCSOPS, but during the year it became a subordinate command of the newly established Headquarters, U.S. Army Space and Strategic Defense Command (USASSDC). USARSPACE's mission is to explore the opportunities that space may offer for national defense. In addition to its personnel at Colorado Springs, USARSPACE stationed its components around the world to operate the Defense Satellite Communications System (DSCS), assist the National Aeronautics and Space Administration (NASA), support defense surveillance, and help plan ballistic missile defense and antisatellite systems.

During the fiscal year, USARSPACE engaged in several significant activities. It helped to form a consortium of the Communications-Electronics Command (CECOM), the Army Space and Technology Research Organization (ASTRO), the Signal Center, and the Army Space Institute to direct the Army's work with Advanced Communications Technology Satellites (ACTS). USARSPACE also strengthened its cooperative relationship with NASA's Commercial Division to become the single largest user of NASA's ACTS. The Army also acquired from NASA the exclusive use of seven small-aperture satellite terminals, which it planned to employ with ACTS in support of the Army's evolving space doctrine and communications requirements. In the future, the terminals will provide a wide variety of new technological applications to the field commander, possibly including color satellite imagery video and weather, terrain, and sensor data.

Military Support to Civilian Authorities

The Army during FY 1992 continued its long tradition of support for civilian authorities during emergencies. The Secretary of the Army serves as DOD's executive agent for a wide range of domestic emergencies,

including natural disasters and civil disturbances. These activities fall within the category of "operations other than war." As the military's force structure and resources are reduced in the post-Cold War era, the Army expects increased calls for these new missions and closer ties to the relevant federal civilian agencies and departments. Examples are the Federal Emergency Management Agency (FEMA) and the Boise Interagency Fire Center, both of which request and use the Army's emergency capabilities.

During FY 1992, the Army directed or was involved in a number of assistance operations. Among them was the well-publicized deployment by the 7th Infantry Division to Los Angeles, California, to restore order in the wake of widespread riots. Another was the use of other FORSCOM units in Florida and Louisiana to provide humanitarian relief and protect property in areas devastated by Hurricane Andrew. *Table 1* shows the degree to which the Army provided support to civilian authorities during FY 1992 emergencies.

TABLE 1—SUPPORT TO CIVILIAN AUTHORITIES

<i>Event</i>	<i>Date</i>	<i>Location</i>	<i>Active Duty Military Personnel Provided</i>
Forest Fires	Oct 91	Tennessee	60
Typhoon Yuri	Dec 91	Guam and Federated States of Micronesia	108
Typhoon Zelda	Dec 91	Republic of the Marshall Islands	37
Cyclone Val	Dec 91	American Samoa	141
Chicago River Flood	Apr 92	Chicago, Illinois	150
Los Angeles Riots	May 92	Los Angeles, California	13,500
Drought Relief	Jun 92	Federated States of Micronesia	144
Hurricane Andrew	Aug 92	Florida	24,525
Hurricane Andrew	Aug 92	Louisiana	84
Typhoon Omar	Aug 92	Guam	798
Hurricane Iniki	Sep 92	Hawaii	3,728

The War Against Illegal Drugs

The Army played a key role in the nation's ongoing efforts to stem the flow of illegal drugs across its borders. The National Defense

Authorization Act of FY 1989 mandated DOD participation in counterdrug activities, allocating \$1.249 billion in FY 1992 to support DOD counterdrug programs. Of this appropriation, \$338.8 million, or 27 percent, went to the Army. The Army used its high tech military equipment and organizational capabilities to attack drugs at their source or to interdict their transit to the United States. It also worked to reduce demand. The Army provided support to such joint commands as U.S. Pacific Command, U.S. Atlantic Command, U.S. Southern Command, and North American Aerospace Defense Command.

One of the Army's major roles in the drug war was the support of Latin American nations on the war's front lines. Army

trainers taught infantry skills, helicopter operation and maintenance, logistics, and intelligence to help foreign counterdrug agencies target and strike at drug production sites. Army personnel and equipment also helped develop the intelligence information critical for the proper identification and targeting of key drug processing and transportation centers, and they helped sustain specialized support functions such as communications. Army helicopters provided transportation for counterdrug operations designed to detect, monitor, and interdict the air and surface transportation of illicit drugs.

Within the United States, the Army aided approximately forty federal and more than two thousand local law enforcement agencies. The Office of National Drug Control Policy fielded requests for Army resources to reinforce federal, state, and local law enforcement efforts. In response, the Army assigned more than 100 officers to various federal law enforcement agencies during the fiscal year. It also provided support to civilian law enforcement in the form of Army mobile training teams, reserve component units, and instruction at training centers at Fort McClellan, Alabama; Fort Benning, Georgia; and Fort Huachuca, Arizona, in such areas as map reading, marksmanship, and other light infantry skills; military police subjects; intelligence; communications; and helicopter flight training. The Army also loaned or leased equipment worth \$80 million, including weapons, night vision devices, vehicles, and helicopters. For nonoperational logistics and training support, it maintained four regional logistical support offices.

The Los Angeles Riots

The Army helped restore a measure of security after civil unrest in Los Angeles following a California jury's acquittal of the Los Angeles policemen accused of using excessive force in the beating of Rodney King. When the jury announced its verdict on 29 April 1992, riots erupted on the streets of south central Los Angeles and soon expanded to disrupt and threaten lives and property in much of the city and county of Los Angeles. In the end, 58 people died, more than 2,000 were injured, and

property losses from looting and fires mounted to \$1 billion. Arsonists set over 4,600 fires that at least partially burned a reported 10,000 businesses. Reports on the number arrested ranged from 12,000 to 17,000. Emergency workers were soon stretched to the limit in their efforts to cope with the crisis.

Both the state and federal governments responded quickly to the crisis. By the early morning of 30 April, the Governor of California had ordered state police and about 2,000 guardsmen into the area to restore order. The first of the National Guard units, the 670th Military Police Company, traveled almost 300 miles from its main armory and arrived the same afternoon to assist local police. Amidst the continuing unrest, President Bush issued Executive Order 6427 on 1 May, federalizing elements of the California National Guard and authorizing active military forces from the Army and Marine Corps to help restore law and order.

As DOD's executive agent for the crisis, the Secretary of the Army activated a civil disturbance plan, called GARDEN PLOT, to help orchestrate the callup and deployment of the military forces. Joint Task Force Los ANGELES consisted of about 10,000 guardsmen, nearly 1,500 marines from Camp Pendleton, and 2,000 soldiers from the 2d Brigade, 7th Infantry Division (Light), at Fort Ord. The military personnel were supposed to protect specific areas of the city, patrol neighborhoods after the police had restored order, and protect the fire fighters who were being attacked by mobs. The military would also provide some logistical support and supply riot gear, helicopters, tentage, and Meals, Ready-to-Eat (MRE). DOD estimated the final cost of the operation at about \$15 million.

Army troops showed restraint and discipline in handling a touchy situation. During the riots, they worked in areas of the city without electricity, where many buildings had been destroyed by fires, and resolved several potentially dangerous confrontations. The city's mayor lifted the curfew on 4 May, and troops departed Los Angeles by 6 May.

Hurricane Andrew

Between 24 and 26 August 1992, Hurricane Andrew left a trail of destruction across South Florida, crossed the Gulf of Mexico, and wreaked havoc in the area around Morgan City, Louisiana. The storm tested the disaster relief capabilities

of local, state, and federal authorities. Within the impact area, Andrew's sustained winds of 145 miles per hour (mph) and gusts that exceeded 170 mph leveled 25,000 homes and left homeless or displaced between 200,000 and 250,000 residents. Services that citizens usually took for granted no longer existed. Most of the houses that withstood the storm had no electricity, and, although the sewer system remained intact, health officials determined the water to be non-

potable. Medical facilities were totally disrupted. Southwest of Miami, Homestead Hospital, the principal medical facility of the region most affected by the hurricane, received severe structural damage. This damage caused public health officials to be concerned about provision of adequate medical care and the prevention of disease. Residents lost household goods and belongings, and key area businesses essential to their livelihoods were destroyed or heavily damaged. In addition, the potential for widespread looting and other crime existed.

The federal relief response focused on Florida. On 24 August, the same day that President Bush declared Dade, Broward, and Monroe Counties in Florida to be disaster areas, the Army established a DOD Executive Agent Crisis Response Cell in the Army Operations Center in the Pentagon to coordinate military assistance. Florida already had called 3,000 guardsmen into state duty, and the federal government was shipping over 120,000 MREs to the area. By 26 August, Lt. Gen. Samuel E. Ebbesen, the Commanding General of Second U.S. Army, had arrived in Tallahassee from Fort Gillem, Georgia, to lead the military's relief effort. Ebbesen brought with him a skeleton staff, which would eventually develop into Joint Task Force ANDREW. He established his headquarters in the old Eastern Airlines Building at Miami International Airport. Damage survey teams went to work conducting aerial inspections of locks, dams, canals, and other flood control structures to prevent additional water damage. Despite these steps, Florida officials criticized what they perceived to be a sluggish federal relief effort. In response, on 27 August President Bush ordered an increased military role in the state.

Under Bush's directive, DOD became the federal agency with the primary responsibility for emergency support functions, and the armed services deployed more resources to the stricken area. A prime power reconnaissance team from the Army Corps of Engineers arrived in Miami on 27 August. By the next day, a contingency support package reached Opa Locka, Florida, with 1,250 general purpose-medium tents, 50,000 blankets, 25,000 cots, 50 30-kilowatt generators, 250 light sets, and 2,500 water cans. The XVIII Airborne Corps sent a logistics task force composed of a medical battalion, an engineer battalion, an aviation element, a supply and service battalion, a military police company, a task force headquarters, and twenty mobile kitchen trailers. By 30 August, six disaster medical assistance teams (DMAT) and one medical command and control team had arrived to help local doctors and to conduct minor surgery. Advance elements of a combat support hospital reached Florida the next day, along with elements of the 10th Mountain Division, which would assist in relief efforts and guard against looting. In the next few days, the U.S. Army Special Operations Command provided small AM radio transmitters to help relief officials. A direct support company from

the 24th Infantry Division at Fort Stewart, Georgia, also deployed, along with public affairs units to help inform civilian communities. Preventive medicine and veterinary teams arrived to aid public health officials, and the Army also sent badly needed electric generators to pump clean water, operate the telephone system, and restore power to one of the civilian hospitals.

These units and resources greatly expanded the relief effort. With schools scheduled to open in a few weeks, the engineer teams and their contractors concentrated their efforts on removing debris and repairing eighty-one schools. By 14 September, the mobile kitchen trailers, whose numbers had more than doubled, had provided almost 571,000 meals, while DOD medical facilities treated 46,000 patients. The total number of active Army troops in Florida reached 21,988, including 775 reservists. In addition, Florida called 5,703 National Guardsmen to state duty. DOD involvement continued into October 1992.

The damage in Louisiana did not reach the same scale as the devastation in Florida. The Army did establish and operate an emergency operations center (EOC) under a brigade commander from the 5th Infantry Division at Fort Polk,

Louisiana. In the aftermath of the storm, the Army Corps of Engineers sent prime power reconnaissance teams to inspect the damage. The corps also shipped power generators and 30,000 MREs to Camp Beauregard. The engineers would eventually procure trailers for temporary housing, but Army activities in Louisiana were limited.

Hurricane Iniki

Hurricane Iniki, one of the strongest hurricanes ever to hit Hawaii, struck eastern Kauai on 11 September 1992, with sustained winds of 145 mph and gusts up to 165 mph. While the storm caused damage on both Kauai and Oahu, most of the destruction and serious property loss took place on Kauai, with property damage assessed at \$500 million. The hurricane destroyed 30 percent of the homes on Kauai and damaged another 50 percent.

The armed services responded with alacrity to the disaster. Even before President Bush declared Kauai and Oahu to be disaster areas eligible for federal assistance, the Commander in Chief, U.S. Pacific Command, appointed Lt. Gen. Johnnie Corns, the Commanding General of USARPAC, to lead DOD's relief effort and assist the local and federal civilian authorities. Fortunately, USARPAC had cohosted a seminar on the use of military resources in response to disasters just weeks before Iniki struck. Using the assets of all of the services, General Corns established Joint Task Force HAWAII and sent a military damage assessment team to Kauai to assist representatives of the State of Hawaii and FEMA specialists in determining relief requirements and priorities. As military strength

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on the island increased, Task Force GARDEN ISLE was established at Lihue on 13 September to supervise the joint effort on Kauai.

The residents of Kauai needed almost everything—food, water, shelter, power, communications, transport, sanitation, and health care. To meet the most immediate critical need, Army medical evacuation helicopters conducted forty-one missions, transporting severely injured residents, patients requiring kidney dialysis, and those with dangerous heart conditions from Kauai to Oahu. Joint Task Force HAWAII also reestablished a communications system using satellite links at several locations on the island, and it installed a distribution center at the Navy's Pacific Missile Range Facility at Barking Sands. In response to a FEMA request for engineer support, the *Gross*, an Army Landing Support Ship, docked at the island with equipment for the removal of debris, and the *Belleau Wood* brought more Army engineer support from Pearl Harbor. The engineers provided power generators, portable toilets, potable water and ice, and construction materials. Five disaster assistance centers (DAC) opened to distribute emergency supplies to civilians. By 29 September, 10 mobile kitchen trailers, 7 mobile showers, 19 reverse osmosis water purification units, and 65 generators were available to serve those in need. A brigade task force from the 25th Infantry Division at Schofield Barracks aided the relief efforts and performed missions as required. The armed services had met the initial needs of the population, and after 29 September military units began to redeploy.

During the fiscal year, the Army's operational forces continued to maintain regional peace, as well as to provide humanitarian assistance. Army units became involved in everything from training activities to the war on illegal drugs and disaster relief. The year's events showed that the Army remained ready to fulfill its responsibilities even as it inactivated units and reduced personnel.

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Reserve Forces

Reserve forces are a critical part of the Total Army. The Army Reserve (USAR) and Army National Guard (ARNG) contributed 55 percent of the personnel of the Total Army but represented only 13.8 percent—USAR 4.5, ARNG 9.3—of Total Army funding. The reserve components constituted 52 percent of the Total Army's combat structure, 62 percent of the combat support structure, and 61 percent of the combat service support force structure. As DESERT STORM and other Army operations showed, the reserve components gave the Army the flexibility to carry out diverse missions, but DESERT STORM also revealed areas that needed improvement. After the Gulf War, all components of the Total Army became smaller. As a result of the smaller active component, it will be necessary to mobilize reserve units even sooner, making it even more critical that Reserve and Guard forces be ready and available for mobilization. In FY 1992, the Army planned, tested, and implemented several new programs and made major improvements in the organization, equipment, and training of the reserve components.

Force Structure

The Army reshaped its reserve component force structure according to the mission readiness of specific units and changes in organization planned for fiscal years 1992-95. During FY 1992, the Army increased to four the number of "roundout brigades"—ARNG or USAR brigades which complete or "round out" an active division's force structure. The 218th Infantry Brigade (Mechanized) (North Carolina) joined the 1st Infantry Division (Mechanized), and for the first time a reserve combat brigade, the National Guard's 81st Infantry Brigade (Mechanized) (Washington), completed the organization of a forward-deployed division, the Korea-based 2d Infantry Division. In addition, USAR and the Office of the Chief, Army Reserve (OCAR), were engaged in an ongoing process to activate and reorganize the Troop Program Units (TPU) in accordance with the organizational designs of AirLand Battle and the drawdown. During FY 1993, the USAR planned to activate more than 60 units, inactivate more than 160, and convert at least 200 others.

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The Contingency Force Pool (CFP), which the Army based on lessons learned from the Persian Gulf War and post-Cold War downsizing, contained both active and reserve units capable of strategic deployment. Army planners expected the CFP to consist of 59 percent active component, 22 percent ARNG, and 19 percent USAR units. The USAR CFP contained Army Reserve units at the corps level and higher that supported up to 5 ¹/₃ divisions in worldwide contingencies. At the close of the fiscal year, plans for USAR envisioned four force packages for supporting various contingencies. The first would support two divisions and a corps element. Package 2 would support units reinforcing the division and corps base. Package 3 would support the remainder of the corps and the lead theater elements, and package 4 would support the remaining theater elements.

Reserve component units in the CFP faced a lengthy list of requirements. FORSCOM stipulated that all selected reserve component units must meet the requirements of the relevant unified command, that active component units, if available, would deploy first, and that the wartime and peacetime chains of command, if possible, would be the same. Planners also specified that the support organizations based in the continental United States should be located as close as possible to the units they supported, that basic force packages should be retained within operations plans, and that reserve component units should maintain acceptable readiness levels.

Strength and Personnel Management

The efforts of the reserve components to adjust their force structure as part of the Total Army reorganization created some special problems for reserve personnel management. Conversion of units to the Army of Excellence model hampered the promotion of some reservists who were restricted by the geographical location and grade structure of their

units. The problem, in short, was that reservists served where they lived, in contrast to active duty personnel, who lived where they served.

During FY 1992, the ARNG faced the daunting task of reducing its strength while simultaneously increasing its quality and maintaining a high standard of readiness. The authorized ARNG end-strength of 431,200—48,324 officers and 382,876 enlisted men—at the end of FY 1992 was nearly 15,000 soldiers fewer than that at the end of FY 1991. The actual assigned strength decreased gradually at first but then dropped rapidly from the end of June to the end of August. In the end, Congress reduced the assigned end-strength at the close of FY 1992 by 25,000 to 426,528, consisting of 47,624 officers and 378,904 enlisted personnel. Of those 25,000 spaces, 19,700 were in combat arms units.

Reductions in ARNG manpower came in several forms. During the year, the ARNG dropped 88,784 soldiers from the rolls. The bulk of the

reduction stemmed from a concerted state effort to remove as many nonperformers as possible, resulting in the release of 72,362 soldiers whose terms of service had not yet expired. But the ARNG was losing capable, qualified soldiers as well. Extensions of enlisted personnel, in particular first-term enlistees, dropped below the programmed objective at the end of FY 1992, a reflection of the perceived uncertainty of career opportunities in the ARNG. Officer Candidate School (OCS) admissions dropped by 206 and Reserve Officer Training Corps (ROTC) by 116 from the previous year. The number of minorities in the ARNG decreased by 5,000 from its FY 1991 level to 104,568, or 24.5 percent of assigned strength. African-American representation, which had been declining since FY 1988, showed the biggest loss, declining by 3,104 soldiers. African Americans at the end of FY 1992 constituted 2,997 officers and 63,585 enlisted personnel, or 15.6 percent of the assigned strength. Female strength remained fairly constant. The 3,718 female officers and 28,135 enlisted women in the ARNG represented 7.5 percent of its total strength.

To maintain quality, even in a time of severe cuts the ARNG would have to recruit and retain qualified individuals. The National Guard Bureau and the state adjutants general made enlisted personnel qualifications and readiness a major issue during the fiscal year, working to enlist more high school graduates and personnel with entrance examination scores that would equal the active component's quality goals by FY 1995. By the end of FY 1992, the ARNG had 71,700 accessions against a programmed objective of 65,253. Of these, 29,752 (41.5 percent) had no prior service. In addition, 58,370 enlisted personnel elected to continue with the ARNG. Through the Reserve Component Transition Program, the Army placed 13,395 enlisted soldiers from the active Army in the ARNG.

The quality of recruits in the ARNG was high. During the fiscal year, more than 83 percent of ARNG recruits had a high school diploma. Enlistments in Categories I through IIIA of the Armed Forces Qualification Test (AFQT) reached 57.7 percent, exceeding the goal by 2.7 percent. Enlistments in Category IV, the lowest category, were only 2.8 percent, significantly lower than the goal of 5 percent.

The quality of warrant officers, as measured by the approval rate, improved during the fiscal year, but the ARNG realized that it would need more applicants to meet its needs. Planners expected recent changes in promotion criteria for W2 and the addition of the CW5 grade to augment recruiting. The ARNG also developed a program to entice enlisted soldiers leaving the active Army into their warrant officer programs.

While the ARNG worked to improve the quality of its enlisted personnel, it also strove to obtain qualified officers. In FY 1992, the issue of new officer commissions exceeded ARNG projections. New lieutenant commissions for the fiscal year reached 1,590, mostly from state, OCS,

ROTC, and direct appointments. Shortages existed in warrant officer and captain grades, but planners believed that the officers and enlisted personnel leaving the active Army would help make up the shortage. The ARNG expected that congressional reinstatement of the assistant professor of military science program at colleges and universities and the

extension of the ROTC Reserve Force Duty scholarship program would raise the number of ROTC-commissioned lieutenants. It projected the federal OCS allocation at 175 officers for the following year. On the basis of congressional hearings, Army planners believed that more West Point and ROTC distinguished graduates would enter the ARNG to complete their initial military obligation.

The USAR also endured reductions during FY 1992. At the end of the fiscal year, USAR TPUs had an assigned strength of 275,789, and the Individual Ready Reserve (IRR) 418,592. The USAR share of the Active Guard Reserve (AGR) numbered 13,146 and Individual Mobilization Augmentees (IMA) 13,915 in assigned strength at the end of the fiscal year. Fortunately, the USAR exceeded its recruiting goal, bringing in 53,151 soldiers during the fiscal year.

The USAR leadership understood that the Reserve had to balance the recruitment of first-time soldiers with the retention of experienced personnel. In response, the USAR substantially improved the acquisition, management, and assignment of personnel to TPUs, the IMA Program, and the AGR Program. As some TPUs inactivated, the USAR attempted to place all of their soldiers in other units, although planners realized that they might not be able to meet this goal. To continue their careers, some former TPU personnel would have to join the IRR. The Army would provide transition benefits for those unable or unwilling to enter the IRR.

Veterans of the active Army provided a partial solution to the problem of filling entry-level slots when incumbents received promotions or left units. After a four-year break, the Army, through the Reserve Component Transition Program, placed 14,192 active duty enlisted soldiers in the USAR, a record-breaking 144 percent above the assigned mission. As was the case with former active duty soldiers entering the ARNG, the Voluntary Separation Incentives/Special Separation Benefits and Voluntary Early Transition (VET) Programs played a significant role in these figures. An additional 22,636 soldiers enlisted in the IRR. During the fiscal year, 448 officers and warrant officers joined ARNG and USAR units. The transition program's match rate of duty stations with MOS qualifications improved from slightly over 70 percent to almost 90 percent.

The transition of former active duty soldiers to the USAR, along with other steps taken by the Reserve, all had an impact on personnel quality. During the fiscal year, 98 percent of those individuals joining the USAR

had a high school diploma. This figure, and the corresponding one for the ARNG, represented the highest rate for the reserves since the advent of the all-volunteer Army. Of the new enlistees, 75 percent fell into Categories I-III of the AFQT, and only 0.5 percent in Category IV

One special problem confronting OCAR was the Individual Mobilization Augmentation Program. Individual Mobilization Augmentees, or IMAs, were trained Selected Reserve members who were assigned in advance to active duty, DOD, Selective Service, or Federal Emergency Management Agency positions that had to be filled promptly during mobilization. In April 1992, the OCAR announced a decrease in the number of IMAs from 14,500 to 13,900 during the next two years. ODCSOPS was responsible for allocation of the remaining IMAs within the Army.

During FY 1992, the Deputy Chief, Army Reserve, conducted a functional area assessment (FAA) of the IMA Program. The assessment uncovered a number of problems. In some cases, IMA requirements exceeded current authorizations or end strength. The program needed to establish procedures for allocating, distributing, or prioritizing IMA positions. Slow documentation procedures precluded the timely filling of IMA vacancies by the Army Personnel Center (ARPERCEN), and a lack of incentives made it difficult to attract and retain qualified personnel. Available funding was insufficient to support both active training and professional development education for the IMAs. In addition, IMA soldiers suffered a disproportionate number of problems with personnel support and pay and a shortage of adequate information. The USAR leadership began corrective action, including revision of the regulation governing the IMA Program. The USAR also convinced ODCSOPS to set priorities for IMA requirements, and the Army agreed to fund mandatory professional development. The Army stabilized IMA strength at 13,000 and funding at \$30 million.

The USAR planned to continue the IMA Program as an essential part of the overall Selected Reserve. The planners considered nominal out-year growth to support high priority emergency requirements and aimed to continue improving

the overall management of the program, including the possible consolidation of IMA personnel management functions at ARPERCEN to enhance overall readiness for mobilization and personnel service support. The changes to the IMA Program should eliminate shortcomings that adversely affected IMAs, that frustrated the agencies to which they were assigned, and that impeded the use of their talents short of a full mobilization.

ROTC received close attention during the fiscal year. The Army managed to obtain the repeal of an FY 1991 National Defense Authorization Act provision prohibiting the assignment of AGR officers to ROTC duty,

but Congress still stipulated that the number of AGR officers on ROTC duty could not exceed 200. Based on budget decisions by the Department of the Army and previously mandated manpower reductions, the Army planned to support 250 ROTC units in FY 1993. The Secretary of the Army acted to close twenty-five units for FY 1993, but OSD suspended the plans.

During FY 1992, General Colin Powell, Chairman of the Joint Chiefs of Staff, directed the Joint Staff to expand the existing Junior ROTC (JROTC) program from over 1,400 to 2,900. After extensive coordination with the staffs of OSD and the services, President Bush announced, on 24 August 1992, a Youth Initiatives Program that included the JROTC expansion. The Army's share of this expansion would increase the number of JROTC units to a total of 1,682, including 835 new units inside the United States and 21 new ones abroad. Since the expansion would draw on funds in the FY 1993 appropriations and authorizations acts, no new JROTC units came into existence during FY 1992.

During the fiscal year, the Army instituted commissioning for physician assistants. In implementing the program, the Office of The Surgeon General asked that the Secretary of the Army grant a waiver to allow USAR physician assistants to remain on active duty beyond twenty years so that they could complete ten years of active federal commissioned service and retire as commissioned officers. At the end of FY 1992, the Assistant Secretary of the Army for Manpower and Reserve Affairs was reviewing the request.

Equipment and Maintenance

The basic modernization strategy of the Department of the Army was to distribute equipment in stages and to set priorities for units and activities to undergo modernization. The stages reflected training requirements, changing threat priorities, political realities, and other factors related to modernization management. This approach ensured that equipment improvements in the reserve components would parallel and complement those of the active component.

The reserve components made significant progress in modernizing their equipment during the fiscal year. In the ARNG, one armored cavalry regiment and two armored battalions upgraded their M1 Abrams tanks to the M1A1 configuration. Two brigades exchanged their M2 Bradley Fighting Vehicles for M2A2s and M3As. One attack helicopter battalion converted from AH-1 Cobras to AH-64 Apaches. Three medium helicopter companies fielded new CH-47 Chinooks. The ARNG fielded a second Multiple Launch Rocket System (MLRS) in Oklahoma and a fourth Hawk missile battalion in South Carolina. Signal units received the

new Mobile Subscriber Equipment. Under congressional mandate, the ARNG also received new 5-ton trucks, M198 howitzers, tactical radios, and night vision devices. During the fiscal year, the value of procured equipment in the ARNG rose to \$30.5 billion, which equaled a 75 percent equipment fill level.

Modernization had proceeded a long way, but it still had a long way to go. Even with the improvements, the ARNG's units continued to maintain older generations of M101 howitzers, M60A3 tanks, gasoline-powered medium trucks, and Vietnam-era helicopter and medical equipment sets. In addition, the active Army had not returned all of the equipment it borrowed for Operation DESERT STORM. Still, with the modest increase in money for equipment received in FY 1992—7 percent—the number of ARNG units ready with equipment-on-hand (EOH) had increased by more than 2 percent.

During FY 1992, the ARNG leadership introduced a new approach to modernization to support future contingencies. The ARNG adjusted the priorities for equipping units to guarantee that the first to fight, high priority Project STANDARD BEARER units received 100 percent of the authorized level instead of the minimum "C-3" level of the past. Planners expected that this "loading" of selected units, as well as changes in readiness reporting rules, would leave several units short of equipment and thus hurt overall EOH readiness. However, the readiness level would be more realistic and closer to actual resource levels. The ARNG believed that equipment surpluses from force drawdowns, not yet identified at the end of the fiscal year, would greatly benefit the ARNG in ensuing years.

The USAR also carried out a significant amount of equipment modernization. Three aviation companies and one aviation battalion received U-21 aircraft, eliminating the last obsolete piston-driven aircraft. One aviation attack battalion converted from AH-1 Cobras to AH-64 Apache helicopters. The USAR activated two attack helicopter battalions with AH-64 helicopters. Two medium helicopter companies replaced CH-47C model Chinooks with CH-47Ds. Ten M1 Abrams tanks replaced M60s in a training division. Thirteen deployable medical hospital sets were delivered. Thirty-five quartermaster, transportation, and ordnance units converted to new configurations with additional productivity-enhancing equipment. Furthermore, wheeled vehicle modernization continued in all types of units.

Despite improvements in the USAR's EOH readiness through the congressionally mandated Dedicated Procurement Program (DPP) and normal Army distribution, the USAR still lagged substantially behind all other DOD reserve components in the amount of equipment actually on hand. At the close of FY 1992, the USAR had a 69 percent EOH inventory. The USAR was critically short of trucks, tractors, trailers, night vision

devices, aircraft, and equipment for tactical communications, power generation, and construction. The problem was even worse than it appeared since many types of equipment, such as construction equipment, aircraft, watercraft, special purpose equipment, and wheeled vehicles, were approaching the end of their expected service life and would either have to be replaced or entered into service life extension programs.

Training and Readiness

Reserve component training included a variety of proven programs and new initiatives that focused on units, individual leadership, and staff skills. Hands-on activities in support of actual missions provided realistic training, while overseas deployment training provided excellent instruction for the Total Army. The Reserve Components Training Development Action Plan, formalized in 1989, provided the Army with a single strategy to improve reserve training readiness. It identified issues relating to the conduct of realistic and effective training and offered guidance to resolve problems. Lessons from Operation DESERT STORM strongly reinforced the conventional view that training before mobilization was critical to minimizing postmobilization training time.

The Army designed an overseas program to provide reserve units with realistic training in the support of U.S. military commands worldwide. In DESERT STORM after-action reviews, many reserve commanders stated that overseas training was the best preparation for actual deployment. Through overseas training, reserve units became familiar with the terrain and political environment in potential wartime theaters, while providing a forward presence around the world. Overseas training also gave reserve personnel realistic training on mobilization, overseas deployment tasks, and wartime functions. Active component units benefited from the integration of reserve components into their training and the formation of enduring professional relationships among the components.

During FY 1992, 17,225 USAR soldiers trained in fifty-six countries, while the ARNG deployed more than 24,000 troops around the world. Training ranged from major CJCS exercises to engineer and medical readiness exercises around the world. ARNG and USAR engineer and medical units conducted numerous nation assistance missions around the globe both to train and to improve health and infrastructure. Through the International Training Activities Program, ARNG and Air National Guard members deployed overseas as teams organized specifically to conduct mission-oriented training in austere environments. The teams usually included an engineering element, a medical element, and an air transport element. The program differed from other ARNG overseas training in that each deployment was joint. If the

engineer element came from the ARNG,

then the medical element had to consist of air guardsmen. In addition, the air crew and aircraft (usually a C-130) that transported the team were an integral part of the mission and remained with the team during the entire period of deployment to provide in-country airlift for the team and the U.S. ambassador. Each deployment was limited to two weeks and focused on projects that the teams could complete within that time frame. The team conducted each deployment in conjunction with host nation military or civilian personnel who actually led the project.

Overseas training augmented available forces within theaters. In USARSO, about 4,000 reserve soldiers, mostly from the Wisconsin ARNG or the 88th U.S. Army Reserve Command, took part in FUERTES CAMINOS 92, providing health care to Panamanians and working on various engineering projects around that country. The Army also instituted a new overseas training activity to assist in the withdrawal of active component units from Europe. In the first year of this program, 1,000 USAR soldiers provided logistical support. Army leaders planned to expand the scope of this program significantly in FY 1993. The Army's goal was to schedule the earliest deploying units for overseas training at least once every three years. Later deploying units would participate every five years.

During the winter of 1991, at the direction of the Chief of Staff, the Army National Guard Bureau instituted a Humanitarian Support Unit Program to make volunteer ARNG units available on 72-hour notice for the support of worldwide humanitarian missions. Of the eighty-nine units nominated by the states, nineteen could deploy in seventy-two hours for a twelve-month period. The remainder would serve as follow-on or expansion units, depending on mission requirements.

Beginning in 1992, the Chief of Staff and the Commander in Chief of FORSCOM, in collaboration with the reserve components, directly promoted the "One Team—One Standard" concept through a major initiative known as BOLD SHIFT. BOLD SHIFT traced its origins to readiness problems within the reserve components during DESERT STORM. The Army had expected most reserve units to be ready for rapid deployment after a short and intensive training session. Many units, however, had lacked leaders with the proper technical skills, and premobilization training often did not prepare a unit to accomplish its Mission Essential Task List. Although most units did quite well in Southwest Asia after receiving proper training, the problem of initial preparedness remained.

BOLD SHIFT consisted of seven interrelated training and readiness programs. First, BOLD SHIFT would consider the demographics and proximity of schools and training areas in the assignment of units to them. Second, it would institute operational readiness exercises (ORE), a key part of the overall design. Modeled after the Air Force's Operational

Readiness Inspection Program, OREs examined a unit's performance of its wartime missions in a more comprehensive way than the regular monthly training sessions. Third, BOLD SHIFT would review and improve training for military occupational specialties. Fourth, it would set achievable levels of premobilization collective training for support units. Fifth, it sought to improve the skills and knowledge of reserve unit leaders by following the qualification requirements of the officer and NCO educational systems. Sixth, it would stress training with wartime chains of command, thus redefining CAPSTONE, a program aligning reserve component units scheduled for Europe with their wartime chain of command; Directed Training Affiliation Programs; and other relationships among active and reserve units for the post-Cold War era. Finally, it would involve increased support of reserve training and readiness requirements. Under the Reserve Training Concept, active units would supply resources and centralized planning, freeing the reserve unit commander from logistical and administrative duties to focus on the actual training.

During the first year of BOLD SHIFT, 291 company-size units participated, and Total Army ORE teams from army headquarters in the continental United States assessed nearly fifty units. The initial pilot program, which included all roundup brigades as well as 35 reserve units from across the country, was expanded by the state adjutants general to 102 high-priority ARNG units from all the states and territories. During the year, Congress increased the number of active

Army trainers for BOLD SHIFT. Approximately 1,300 personnel will join Resident Trainer Detachments assigned to certain reserve component units. Officers will concentrate on training, planning, organizing, and assessing battle leaders and staffs while NCOs conduct individual, crew, and squad training. As part of BOLD SHIFT, the Army sent roundup and roundout brigade staffs to the Tactical Commanders Development Course at Fort Leavenworth, and combat, combat support, and combat service support unit staffs attended the Unit Battle Skills Courses. The Battle Command Training Program proved very successful in training senior reserve commanders and their staffs.

Under the Total Army Training Structure, the Army developed concepts and plans to place all reserve component training institutions under the command and control of selected training divisions on a regional basis. Under this plan, the 108th Division (Training) and the U.S. Army Reserve Forces schools in North Carolina, South Carolina, Georgia, and Florida would be affiliated with the 81st, 120th, and 121st Army Reserve Commands (ARCOM). The Director, Army National Guard, established Project STANDARD BEARER on 1 November 1991 to strengthen the ARNG's ability to operate with active component units in the post-Cold War era. STANDARD BEARER endeavored to enhance the capability and

readiness of the roundup brigades, roundout brigades, and Contingency Force Pool units. As the ARNG's highest priority units, they would receive resources, training, and validation as "standard bearers" for the entire ARNG. They would use these to achieve and maintain a 95 percent level in MOs-qualified personnel.

The USAR anticipated increased participation in training at the National Training Center and the Joint Readiness Training Center (JRTC). Employment of USAR troops at these centers in the past had been limited to serving in OPFOR and support roles, but in FY 1992, TPUs joined the scheduled training rotation at the JRTC for the first time. The IRR made history when it participated in a three-week light infantry training exercise that included live fire, the first such training scenario for the IRR. This exercise demonstrated the USAR's continuing efforts to provide meaningful training for members of the IRR.

Mobilization

The ARNG considered training for mobilization to be essential for meeting its responsibilities for mobilization and deployment. During the fiscal year, ARNG units took part in more than 890 local mobilization exercises conducted by State Area Command headquarters. The ARNG designed these exercises—along with mobilization and deployment readiness exercises, readiness for mobilization exercises, State Area Command exercises, and emergency mobilization and deployment exercises—to foster unit and individual preparedness. During the fiscal year, the ARNG mobilization and deployment exercise program proved its value in its response to federal and state crises, such as the Los Angeles riots and Hurricanes Andrew, Omar, and Iniki.

In addition to the ARNG exercises, all reserve state headquarters took part in the Department of the Army's mobilization exercise OPTIMAL FOCUS 92. This exercise concentrated on the actual simultaneous mobilization of multiple units to discover flaws in the mobilization and deployment system. All units carried out activities at their home stations to test their ability to move to the mobilization station within seventy-two hours. The Army applied lessons learned in the exercise to all units and activities involved in mobilization and tested them in exercises directed by the JCS and the Department of the Army.

The Army Reserve used several approaches to prepare its units and soldiers for their wartime and contingency roles and to ascertain their current state of readiness. Since the USAR did not have a sufficient budget to train all 60,000 TPU members and 20,000 IRR personnel, it focused training on the mobilization process to maintain the individual soldier's readiness for mobilization and deployment. Other training covered family

support matters, quality of life subjects, and other issues that directly met the needs of soldiers and encouraged

retention.

The USAR mission with regard to training base mobilization continued to focus on initial entry training and refresher training for IRRs. During DESERT STORM, elements of the 70th, 80th, 84th, 85th, 98th, 100th, and 108th Training Divisions carried out refresher training. TRADOC reduced the active component training base structure and planned for increased peacetime use of the nine remaining training divisions to conduct year-round initial entry training.

Support to Civil Authorities

The reserve components participated in humanitarian and nation assistance operations at home and abroad. In addition to providing training benefits for personnel and units, these operations greatly aided government agencies and the afflicted. Army reserve component units received acclaim for their compassion and competence in responding to natural disasters and played a major role in hurricane relief operations in Florida, Louisiana, Hawaii, and Guam. In Florida, for example, 794 reservists and 5,703 Florida guardsmen assisted victims of Hurricane Andrew in September 1992.

Active component and USAR soldiers deployed regularly for civil emergencies, but the National Guard remained the primary asset available to the states for this purpose. During the fiscal year, guardsmen responded to 322 emergencies in 51 states and territories, including 4 civil disturbances and 112 natural disasters. The demands on resources increased tremendously compared to the previous year because of the nature of the emergencies. Hurricane Omar, for instance, forced the call-up of nearly the entire Guam National Guard, 240 soldiers, for 4,800 man-days. The National Guard called up more than 10,000 persons for 101,000 man-days during the Los Angeles riots, the largest civil disturbance call in more than twenty years.

The Army National Guard and Army Reserve also continued their counterdrug operations as part of the National Drug Control Strategy. Under Title 32, 3,000 ARNG soldiers provided a million man-days of counterdrug efforts in every state, the District of Columbia, and the U.S. territories. Their activities included marijuana detection and eradication, along with training, aviation, and engineer support as well as inspection of container cargo at ports of entry into the United States. Army guardsmen also participated in several antidrug programs to educate school children about the dangers of drug and alcohol abuse. Most of this assistance took the form of time donated by individual National Guard personnel, who volunteered for active duty special work in addition to normal training

requirements. ARNG counterdrug operations confiscated more than \$61 million in cash, eradicated about 83 million marijuana plants, seized more than 5,000 weapons, and resulted in more than 22,000 arrests. *Table 2* lists Army National Guard counterdrug seizures by type of drug. In 99 percent of the after-action reports, the senior law enforcement officer present during the operation rated the National Guard's support as excellent. In the view of the ARNG, the results showed that the flow of illicit drugs can be interrupted when adequate resources are available.

TABLE 2—FISCAL YEAR 1992 ARNG COUNTERDRUG SEIZURES
(IN POUNDS)

Marijuana	445,248
Cocaine	165,758
Heroin	1,047
Opium	631
Hashish	165,500

Army Reserve units participated in counterdrug operations whenever feasible. Some 1,100 USAR personnel supported federal, state, and local law enforcement agencies, especially the U.S. Customs Service. FORSCOM worked with American law enforcement agencies to validate their requests for counterdrug assistance and then coordinated with the U.S. Army Reserve Command to determine if Army Reserve units should be involved. During FY 1992, Army

reservists were involved in training law enforcement officials, engineer support, linguistic support, intelligence analysis, and aviation support.

Reserve component personnel involved with Task Force ENGINEER continued to construct and maintain an all-weather road system that gave the U.S. Border Patrol access to the crossing points on the Mexican border used by illegal immigrants. Reserve personnel pointed out to members of the Army Reserve Forces Policy Committee that disabled equipment stood idle for long periods of time due to slow receipt of necessary spare parts. The committee concluded that the Army should utilize a nearby truck parts facility and that delegating local purchasing authority to Task Force ENGINEER would increase its productivity.

The reserve components faced many problems from mandated cuts in end strength and budget, but they continued to fulfill their responsibilities in the Total Army. Although most ARNG and USAR units concentrated on routine training, a number of them provided security and humanitarian assistance in the wake of civil unrest and natural disasters. Several units

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provided medical and engineering expertise to Third World nations. In response to a demonstrated lack of readiness during the Gulf War, the Army initiated BOLD SHIFT to bolster the preparedness of the reserve components for mobilization and deployment. The reserve components continued to provide the bulk of the Total Army's force structure at a comparatively small percentage of the Total Army budget.

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5

Research, Development, and Acquisition

During FY 1992, Army research, development, and acquisition (RDA) agencies confronted shrinking acquisition budgets, reorganization, and the challenges of "continuous modernization." Although the Army's budget for research and development remained relatively stable, funds for procurement continued their recent decline. The Army reorganized its RDA establishment to improve RDA and ease the impact of declining procurement funds on defense industries. Through "continuous modernization," the Army sought to combine new advanced technology programs and improvement of existing systems with state of the art technology to maintain the superiority of the United States in weapons systems. The goal of the Army's RDA strategy was to supply American soldiers with top-quality equipment in sufficient quantity and in the shortest possible time.

Budget

The Army's research, development, test, and evaluation (RDTE) budget had remained fairly stable during the past two budget years, but procurement funding dropped from more than \$14 billion to less than \$7 billion in FY 1992. The RDA budget request for FY 1993 was \$12.2 billion, with \$6.8 billion for procurement of hardware systems and \$5.4 billion for RDTE. Army planners pointed out that during the peak of defense spending in 1985 the Army spent close to three dollars in procurement for each dollar in research and development, whereas in 1992 the ratio dropped to 1.25 to 1. The Army leadership believed that this reduction would have an adverse effect on the Army's ability to introduce new technology into the field.

After increasing from \$4.7 billion to \$6.5 billion from FY 1988 to FY 1992, the Army's proposed RDTE budget of \$5.4 billion for FY 1993 reflected the overall reduction in available resources as well as the use of modernization funds to pay for force structure. *Table 3* breaks down the total RDTE budget by activity. Increases in funding included those activities directly affected by changes in FM 100-5 and the leadership's vision of the future Army. Although development of technology received more

dollars in the FY 1993 budget request after a decline during the previous year, strategic programs saw a drastic drop in support during both years.

TABLE 3—RESEARCH, DEVELOPMENT, TEST, AND EVALUATION, ARMY TOTALS BY BUDGET ACTIVITY (\$ IN MILLIONS)

	<i>FY 1991¹</i>	<i>FY 1992²</i>	<i>FY 1993³</i>
Technology Base	820.3	854.3	753.3
Advanced Technology Development	509.6	411.7	431.7
Strategic Programs	159.1	73.2	43.8
Tactical Programs	2,665.0	3,613.7	2,748.1
Intelligence & Communications	86.6	144.0	176.8
Defense-wide Mission Support	1,332.7	1,356.5	1,260.9
Total	5,573.3	6,453.3	5,414.5

- 1. FY 1991 data is consistent with DD Comp(M) 1002 Report, dated 30 Sep 91, and adjusted to show reprogramming as of that date.
- 2. FY 1992 data is consistent with the DOD Appropriation Act, PL 102-172, dated 26 Nov 91, and the FY 1992 Dire Emergency Supplemental Appropriation Act.
- 3. FY 1993 data represents the request of Congress.

The Army also broke down the RDTE budget by research, development, and testing. As *Table 4* shows, all categories except operational systems development received increased funding for FY 1992 and decreased monies in the FY 1993 request to Congress. Operational systems development continued a steady decline in funding.

TABLE 4—RDTE PROGRAM CATEGORIES
(\$ IN MILLIONS)

	<i>FY 1991¹</i>	<i>FY 1992²</i>	<i>FY 1993³</i>
Basic Research (6.1)	180.6	190.8	177.2
Exploratory Development (6.2)	639.7	663.5	576.1
Advanced Development (6.3)	1,238.4	1,387.3	1,104.3
Engineering Development (6.4)	1,622.0	2,426.2	1,919.2
Management & Support (6.5)	1,308.1	1,350.3	1,246.9
(Test & Range Operations)			
Operational Systems Development (6.7) (PIPS)	584.4	435.1	390.7
Total	5,573.3	6,453.3	5,414.5

See Table 3 for footnotes.

While RDTE funding increased through FY 1992 before declining in the FY 1993 budget request, procurement funding declined by more than 50 percent, from \$14.9 billion for fiscal year 1988 to \$6.8 billion for FY 1993 (*Table 5*). Funds in the categories of missiles, ammunition, and weapons and tracked combat vehicles particularly showed a precipitous fall. The Army attributed part of this decline to a surplus of durable items that could be expected to last through the near future. Also, in many cases Congress either stretched out procurement over a longer period of time or drastically cut the appropriation. Finally, the Army often used ostensible procurement funds to maintain the existing force structure, in effect trading materiel for organization.

TABLE 5—PROCUREMENT
(\$ IN MILLIONS)

<i>Appropriation</i>	<i>FY 1991¹</i>	<i>FY 1992²</i>	<i>FY 1993³</i>
Aircraft	1,247.6	1,829.2	1,291.3
Missiles	2,972.9	1,106.3	982.3
Weapons & Tracked Combat Vehicles	1,941.2	774.9	623.4
Ammunition	2,046.8	1,368.1	823.6
Other Procurement	2,652.0	3,141.0	3,093.5
Total	10,860.5	8,219.5	6,814.1

See Table 3 for footnotes.

Science and Technology

The Army Science and Technology Master Plan and Objectives

During FY 1992, the Army program for science and technology received its overall direction and focus from two executive-level groups. The Army Science and Technology Advisory Group, co-chaired by the Army Acquisition Executive and the Vice Chief of Staff, provided top-level supervision of the program. The Army Science and Technology Working Group recommended to this body revisions to the Army's strategy and priorities for science and technology. It also reviewed the Army Science and Technology Master Plan, Advanced Technology Demonstrations, and Science and Technology Objectives. The annual Army Science and Technology Master Plan provided guidance to the Army science and technology community consistent with the National Military Strategy, Defense Planning Guidance, and the Army's force modernization plans. Advanced Technology Demonstrations tested emerging technology, allowing the Army to explore other technical alternatives and

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to eliminate unpromising technologies in a program's early stages. The master plan contained Science and Technology Objectives, significant goals requiring one or more specific technical objective(s) to be finished by a certain fiscal year.

A working group meeting on 11 September 1992 to review the Army's Science and Technology Objectives marked the first time that the development community and TRADOC evaluated the Army's technological objectives in light of user needs and priorities. The group undertook a thorough examination of the objectives in the FY 1993 Army Science and Technology Master Plan prior to presenting its proposals on organization and the master plan to the top-level advisory group on 22 September. The advisory group approved the Army Science and Technology Master Plan and forwarded it to the Secretary of the Army and the Chief of Staff for signature and publication.

Almost simultaneously with the advisory group's approval of the master plan, the Deputy Assistant Secretary of the Army for Research and Technology laid out the model for future advanced systems concepts offices. The Army hopes to revitalize the concepts office in each Research, Development, and Engineering Center of the Army Materiel Command. Through these steps, the Army seeks to meet the challenge of more upgrades, fewer resources, introduction of new technology, virtual prototyping, and active coordination with TRADOC's Battle Labs.

The Army Science Board

During the fiscal year, the Army Science Board (ASB), the senior scientific advisory body of the Department of the Army, advised and made recommendations to the Army on scientific, technological, and acquisition subjects. Under the direction of the Secretary of the Army, the Army Science Board used summer study groups, issue groups, and ad hoc study groups to carry out independent, interdisciplinary studies crucial to Army missions. Normally, the board held two summer study groups per year. Issue groups provided ongoing support for such general Army functions as analysis, test, and evaluation; command, control, communications, and intelligence (C3I); infrastructure and environment; logistics and sustainability; research; and soldier systems. Ad hoc studies addressed specific problems of limited scope and duration. At the close of the fiscal year, the ASB had seventy-seven members, eighteen of whom had joined the board during the year. During FY 1992, the ASB formed new committees for membership and the critique of studies, completely revised its standard operating procedures, and began automating its operations to better support its members.

The ASB presented the results of two summer studies to the Secretary of the Army on 5 August 1992. "Land Warfare Combat Identification"

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examined technologies with the potential to reduce fratricide. This study evaluated these technologies with regard to covert operation, security, reliability, noninterference with the operation of the overall system, and capacity for identification. The study group made several recommendations regarding design and requirements, situational awareness, target recognition, question and answer technology, models, analysis, training, and implementation. A second summer study, "Command and Control on the Move," looked at command and control problems that arose in recent combat operations. It stressed the need for a commander to exercise effective command and control at all times during operations on the extended battlefield, including intervals when he was away from his command post.

One of the more important ad hoc studies was "Initiatives to Improve the Participation of Historically Black Colleges and Universities/Minority Institutions in Army Research, Development, and Acquisition Activities to Strengthen Their Infrastructure." This study recommended that the Army establish a centralized, consistently funded program to take advantage of the valuable resources at black and other minority colleges and improve the infrastructure at carefully selected schools. The Army, the study contended, should establish several research centers with each center based upon a major emerging technology coupled to an academic discipline. It suggested that Army programs to support the development of these schools should focus on research and institutional, educational, and human development. By the close of the fiscal year, the Army had started the implementation of the study's recommendations.

During the fiscal year, the ASB found new ways to contribute to training effectiveness. Following guidance from the ASB and the Defense Science Board, the Army Research Institute conducted a major research study in this area. The study revealed which units were more likely to be successful in exercises at the National Training Center. These units trained at their home stations and to standards; made maximum use of Training Aids, Devices, Simulators, and Simulation (TADSS); received sufficient operating time with their equipment; and followed doctrinal prescriptions concerning training management. The Army Research Institute planned to conduct additional research to examine the effects on unit performance of selected changes designed to maximize unit effectiveness and combat readiness.

Board on Army Science and Technology (BAST)

The National Research Council, through its Commission on Engineering and Technical Systems, established the Board on Army Science and Technology (BAST) on 15 February 1982. Then-Under Secretary of the Army James R. Ambrose wanted an independent body of specialists to provide expertise in the fields of engineering, science,

research, and technology. In coordination with the Assistant Secretary of the Army for Research, Development, and Acquisition (ASA [RDA]), BAST committees have conducted scientific and technological research and development studies to support Army operations. The Army and BAST have held periodic meetings to determine study areas, to discuss progress, and, as appropriate, to visit major Army installations. In short, BAST has provided a repository of scientific and engineering knowledge and a forum for the exchange of information. In addition to a chairman and vice chairman, BAST has consisted of sixteen to twenty members serving staggered three-year terms. The Army selected members for their background, experience, and familiarity with policy issues.

In March 1988, the ASA (RDA) requested that BAST conduct a Strategic Technologies for the Army (STAR) study of the most significant advanced technologies for the next century and their impact on ground warfare. In response, BAST organized three subcommittees devoted to science and technology, integration, and technology management and development planning. All three reported directly to the general study chairman, who received his policy guidance from an executive committee that served as the link with the senior Army leadership. Through nine subgroups, the science and technology subcommittee prepared assessments on the likely course of technological development over the next ten to twenty years. The integration subcommittee and its eight system panels reported on systems capabilities that were likely to be important to the Army in twenty to thirty years, based upon projections by the subcommittee for technology management and development planning. Volume 1 of the main report appeared in May 1992, with a second volume scheduled for December 1992. A team of STAR committee members started outreach briefings to selected audiences in March 1992.

While studying future technologies, BAST also became involved in the destruction of chemical agents and munitions. Following a congressional directive and the request of the Under Secretary of the Army, BAST established the Committee on Review and Evaluation of the Army Chemical Stockpile Disposal Program in October 1987 to review the disposal program and conduct workshops on technical issues. During FY 1992, the "Stockpile Committee" inspected active and prospective facilities for the destruction of chemical weapons, discussed various monitoring programs, and reported on the incineration of the stockpile and the disposal system's process for handling pollution. At the instigation of the Assistant Secretary of the Army (Installations, Logistics, and Environment) (ASA [IL&E]) and BAST, the Stockpile Committee formed a Panel on Current Status of the Cryofracture Process to evaluate the technical merits of the cryofracture process on the basis of any new data published in the past several years. After reviewing the current test program,

the panel concluded, in a report it sent to the Army on 18 November 1991, that reforms of the process in light of the latest developments could require a major redesign and a degree of complexity beyond what the panel deemed necessary. Responding to the ASA (IL&E), BAST also formed a Committee on Alternative Chemical Demilitarization Technologies (Alternatives Committee) in January 1992 to study alternatives to the baseline technology for chemical munitions demilitarization. The Alternatives Committee held its first meeting in March 1992 and tentatively plans to publish its report in May 1993.

Army Technology Base Master Plan

The Persian Gulf War dramatically illustrated the potential for regional conflicts around the globe. The Army believed that the conventional weaponry employed in these wars would be highly sophisticated and lethal. Army planners also recognized that many regional powers would possess chemical and biological weapons. To counter these potential threats, the Army had to maintain its technological edge through a base program that could exploit the global technological revolution.

The Army Technology Base Master Plan (ATBMP), published annually by the Department of the Army, laid out the Army's strategy to maintain technological superiority in a period of reduced resources. It gave direction to the Army's laboratories, centers, and researchers and assisted industry and academia with long-range planning. The Army technology base strategy stressed critical technologies, development of new systems, prototyping, technology demonstrations, system improvements, and technological upgrades. It called for balancing resources across four domains: technology for future systems and upgrades, key emerging technologies, systemic issues, and supporting capabilities.

The section on technology for future systems and upgrades laid out nine Army modernization plans that focused on requirements for the force structure and training development. The Army tied each modernization plan to the existing force structure and programmed resources, but it required each plan to have the capacity to adjust to changing threats, technological breakthroughs or delays, and alterations in funding levels and personnel assets. Each plan attempted to cover developments in its field twenty years into the future.

The Army Aviation Modernization Plan covered improvements in Army aircraft. It called for upgrades in existing and soon to be available systems, such as the AH-64 Longbow Apache helicopter. It also set as a goal the acquisition of the light helicopter and development of technologies for future aircraft systems and upgrades of those systems. These included the Future Attack Air Vehicle, the Advanced Cargo Aircraft, the Apache Improvement, and the Light Helicopter Pre-Planned Product Improvements.

The Air Defense Modernization Plan discussed forward area air defense, high- and medium-altitude air defense, tactical missile defense, and antisatellite systems. The plan provided for an increased antitactical missile capability to meet the increasing missile threat to contingency forces. It focused on technologies that would improve identification and target

acquisition, weapons survivability and mobility, and battlefield command, control, and intelligence.

The Fire Support Modernization Plan concentrated on enhanced efficiency for artillery in close support, counterfire, and deep fire roles. The plan sought to increase accuracy, range, mobility, survivability, and lethality while decreasing logistical and training support. Researchers worked on improved gun propulsion techniques, better target acquisition, automated decision aids, "smart" munitions, and advanced fuses.

The Armor/Antiarmor Modernization Plan laid out requirements for the armored force. To improve versatility, killing power, survivability, reliable performance, and mobility, the plan turned to integrated mission equipment, advanced guns with new propulsion methods, hybrid composite structures and components, more fuel-efficient vehicle propulsion, and advanced modular armor. For the future, the plan envisioned robotic and semi-autonomous systems for hazardous environments.

The Engineering and Mine Warfare Modernization Plan covered the varied developments in the fields of engineering, mine warfare, and camouflage. Planners explored ways to extend effective ranges, incorporate advanced sensors, improve methods of identifying targets, and protect friendly forces. Proposals for countermine technology emphasized remote detection and neutralization. The proposals for bridging technology concentrated on assault and support bridges, investigating the use of lighter, stronger, and more durable composite materials as well as innovative designs. Researchers also worked on camouflage systems to reduce or eliminate visual, ultraviolet, thermal infrared, and radar waveband signatures that could be detected by highly sensitive sensors.

The Army Command, Control, and Communications (C3) Modernization Plan updated C3 systems at the corps level and below. It sought to resolve doctrinal, training, organizational, and materiel deficiencies to provide an Advanced Tactical Command and Control System (ATCCS). When fully deployed, ATCCS would furnish the Army with a survivable, secure, and vigorous system capable of supporting the commander through the rapid acquisition and integration of information. The system would feature wide-band fiber optic cable and millimeter wave-interconnected local area networks, adaptable and programmable modulations for threat avoidance, and compatibility with systems employed by allied forces.

Unlike the other modernization plans, the Light Forces Modernization Plan looked at light forces requirements in all other modernization plans

and mission areas. The plan extracted applicable portions and examined them from the perspective of the roles and missions of the light forces. It then ensured that adequate resources were provided to meet the objectives of the light forces.

The Intelligence and Electronic Warfare (IEW) Modernization Plan laid out a strategy for the development of systems that exploited modular technology to create a variety of sensors and jammers. These airborne, ground-based, expendable, and emplaced systems would provide the future commander with the capability to detect, locate, classify, and keep track of moving and stationary targets. He could also use these systems to direct fire support, deny information to enemy weapon and information-gathering systems, and deceive the enemy as to the battlefield situation.

The Soldier Modernization Plan, by viewing the soldier as a system, sought to improve his combat effectiveness. The plan pursued the development of weapons for personal defense and individual combat and work on such C3 systems as the soldier's radio, computer, and digital helmet display. It also investigated protective systems that combined light, full-body, ballistic protection with nuclear, biological, chemical, flame, and microwave protection. The plan also called for various advances in sustainment, such as improvements in the quality of A-rations, an enhanced capacity to eat on the move, and techniques for increasing physical and mental performance. The airdrop of personnel, supplies, and equipment from extremely high to very low altitudes at airspeeds up to 400 knots and the development of improved medical care systems to protect the soldier and expedite his return to battle also received attention in this plan.

As part of its efforts to focus resources on those areas that would ensure the long-term, qualitative superiority of

American weapon systems, the Army identified thirteen especially critical emerging technologies. These included microelectronics, photonics, and acoustics; advanced signal processing and computing; advanced materials and materials processing; directed energy; artificial intelligence; robotics; power generation, conditioning, and storage; advanced propulsion technology; space technology; protection/lethality; low observable technology; biotechnology; and neuroscience. Although very different in detail, these technologies shared several attributes. All held great promise for solving important deficiencies or significantly increasing U.S. capabilities on the modern battlefield. Although they were immature technologies, demanding considerable further research, an Army-wide consensus acknowledged their importance. The related technologies of microelectronics, photonics, and acoustics in particular formed the basis for intelligence gathering, communication, computation, fire control, fiber optic

flight controls, and electronic warfare systems. In the future, the Army planned to devote 25 percent of its technology base resources to the thirteen emerging technologies.

Civil Works Research and Development

The Corps of Engineers (COE) pursued an aggressive research and development program in civil works. Four research centers handled the bulk of the COE research and development in the field: the Cold Regions Research and Engineering Laboratory at Hanover, New Hampshire; the Construction Engineering Research Laboratory at Champaign, Illinois; the Waterways Experiment Station at Vicksburg, Mississippi; and the Engineer Topographic Laboratories at Fort Belvoir, Virginia. The COE conducted approximately 65 percent of its research in-house, accomplishing most of the remainder through contracts with universities or private firms.

The major part of the COE program for civil works research and development concentrated on water resources development and management, including flood control, waterborne transportation, hydropower systems, erosion control and shore protection, and water-oriented recreation. But, more than ever, environmental and social considerations, energy conservation, mounting concern with urban problems, and declining appropriations compelled the corps to consider new approaches. The FY 1992 program called for \$21.7 million of general investigations funds, which would meet only the highest priority requirements. To do more with less, the Corps of Engineers examined new ideas and techniques, including many developed by industry and universities, and incorporated its findings into engineer manuals, technical letters, guide specifications, circulars, and laboratory technical reports.

For management purposes, the COE divided its research and development program into seven research areas: materials, coastal engineering, flood control and navigation, environmental quality, water resources planning studies, surveying and remote sensing, and construction operation and maintenance. In the field of materials research, corps researchers studied soil compaction and concrete and their use in constructing retaining walls, dams, embankments, and locks. During FY 1992, they developed several new computer models and programs to predict the behavior of soil and to design procedures for reinforced concrete and concrete hydraulic structures. Other studies produced greatly improved compaction control of earth-rock mixtures for embankments and developed new designs for retaining walls and sheetpile walls.

In coastal engineering, COE research projects enjoyed a productive year. They developed techniques, equipment, and procedures for determining or predicting waves, currents, water levels, and sediment flow

along shorelines. Researchers also developed procedures, methods, and guidance for the effective design, construction, and maintenance of coastal structures. Engineers completed testing of advanced electronic sensors for measuring sediment flow and established a high-resolution wave array measurement system for the Pacific coast.

Research on flood control and navigation attempted to achieve maximum efficiency at least cost in the design and construction of structures and devices for flood control, navigation, cost-shared analysis of erosion, ice engineering, and

water quality. Some major projects included the development of improved guidance for the design of grade-control structures in flood control channels, the production of evaluation methods for preventing or reducing the problem of salt water in stratified navigation projects, and the provision of interim guidance on shallow-draft coastal port design. In addition, the COE completed the final guidance, software, and instructions for area-wide analysis of the total area of erosion behind levees.

Research on environmental quality studied the construction, operation, and maintenance of COE water resources projects and their impact on the environment. Many recent regulations have tightened the environmental quality standards on water resources projects. To meet these standards economically and effectively, the program attempted to develop techniques and procedures for assessing and controlling the environmental impact of corps activities. Researchers completed the final sections of the Wildlife Management Manual and finished and published guidelines for procedures to preserve archeological sites. The corps also completed guidelines for cost-effective erosion control and shoreline stabilization using vegetation and simple structures. In addition, researchers issued guidelines for conducting selective channel clearing with minimal impact on the habitat.

Water resources planning studies ranged from an analysis of ways to facilitate public involvement in water resources planning to the development of mathematical models for estimating the effect of future urbanization on potential flood hazards. Researchers finished guidelines for analysis and design criteria for relocation of reservoirs. In addition, the Corps of Engineers continued its four-year project to reduce the impact and cost of zebra mussel infestations in and around public water facilities without harm to the environment, in the process providing guidance to federal, state, and local agencies and industries. The COE also launched a series of conceptual studies on the hydrologic consequences of global warming, examining the social, economic, and environmental effects of a rise in sea level and developing strategies for protecting the shoreline. The Corps of Engineers planned to examine the impact on different geographical areas from large river basins to smaller tributary watersheds. Planners completed guidelines

for the evaluation of the risks, reliability, and costs involved in major rehabilitation projects; finished a model to assess the costs and economic impact of maintenance dredging; and developed risk-based procedures for flood damage mitigation projects. Throughout, the corps kept an eye on the impact of these projects on the environment, producing analyses that evaluated the risks of certain projects for the environment.

Surveying and remote sensing research included the investigation of uses for new technology in surveying, mapping, and satellite remote sensing. The Corps of Engineers explored taking advantage of the precise measurement and positioning capabilities provided by Army and National Aeronautics and Space Administration (NASA) satellites for its dam safety program, erosion surveys, and dredge positioning. The corps also improved computer-aided drafting and design software for the use of corps surveyors. Researchers continued to evaluate the use of satellite and aircraft data for measuring snowpacks in order to predict spring runoff with more timeliness and accuracy.

The construction, operations, and maintenance research area was covered by five information analysis centers—soil mechanics, concrete technology, coastal engineering, hydraulic engineering, and cold regions engineering—at the Waterways Experiment Station and the Cold Regions Research and Engineering Laboratory. These centers acquired, evaluated, and disseminated newly published scientific and technical information from the United States and abroad; answered several thousand technical inquiries; and prepared numerous technical evaluations, bibliographies, and reports. Federal and state agencies generated approximately 80 percent of the inquiries, with the remainder coming from private industry and foreign governments.

One issue that concerned those working in the construction, operations, and maintenance area was the lack of investment by society as a whole in construction research and development. Studies by the National Research Council, Office of Technology Assessment, and others showed that the United States construction industry spent less than 0.5 percent of income from sales for research and development, resulting in falling productivity, higher construction costs, and a loss of competitiveness. Analysts believed that improving productivity and the resulting reduction in federal construction costs would make feasible projects which are now economically impractical.

Responding to the dearth of construction research and development, Congress authorized the Construction Productivity Advancement Research Program to develop and apply state of the art and advanced technology in construction projects. This research program, in which the Corps of Engineers participated, studied improved materials and procedures to extend pavement life and reduce maintenance costs. In addition,

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one of the corps' industry partners will market a prefabricated building system that will increase savings in a wide variety of facilities. Researchers also improved the design and materials for soil liners used in landfills and hazardous materials disposal sites in cold regions, thereby not only reducing materials costs but permitting site construction in adverse weather.

Among the projects in the construction, operations, and maintenance area with implications for civilian use was the magnetic levitation (maglev) transportation pilot program. Maglev transportation uses magnetism to "levitate," propel, and steer passenger or cargo vehicles along a guideway. Maglev technology showed the potential to expand transportation capacity, reduce congestion in high density transportation corridors, save energy, provide clean transportation with a minimal environmental impact, and create a new U.S. technology export market. During the fiscal year, the Intermodal Surface Transportation Efficiency Act established a national magnetic levitation prototype program operated jointly by the Department of the Army and the Department of Transportation.

As an emerging technology, maglev raised several economic, engineering, technological, and public policy issues that demanded further investigation. Representatives of the Corps of Engineers, the Federal Railroad Administration, the Department of Energy, and the Environmental Protection Agency (EPA) had formed an interagency team, the National Maglev Initiative, to study these issues. This initiative would develop American maglev expertise, examine the creation of a national maglev industry, define the roles of the government and private sectors, and lay out and manage the government's role. After submitting feasibility reports to Congress in 1990, the team during 1991 established a program office and oversight committee, completed draft strategic and decision plans, awarded twenty-seven technology assessment and four system concept definition contracts, and initiated research on superconducting magnets, cryostats, control, propulsion, and market, traffic, and travel demand.

The activities of the Corps of Engineers directly affect wetlands. Section 404 of the Clean Water Act, Executive Order 11990, and the President's stand on "no net loss" of wetlands recognized the need to minimize the destruction or degradation of wetlands that would ultimately affect the nation's water supply. Therefore, the Wetlands Research Program combined environmental and engineering approaches to find the best technical and most cost-effective techniques to meet both COE and national needs. During the fiscal year, the program assessed wetland capabilities to enhance water quality, developed guidelines for the most significant wetlands, published technical guidance for restoring and establishing wetlands, and finished an interim report evaluating techniques needed to manage corps wetlands.

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During FY 1992, the Corps of Engineers continued the Repair, Evaluation, Maintenance, and Rehabilitation (REMR) Research Program. Through new technology, the original REMR had produced more than \$40 million in savings in FY 1989, its final year. This figure did not include an estimated \$200 million in savings through FY 1994 in such areas as improved safety and reliability, reduced manpower requirements, and better operational capabilities. Based upon the success of the program, the COE initiated the REMR-II Program in FY 1991. The corps expected the program to extend through FY 1997, with a total cost of \$35 million. For the corps this meant in particular a focus on its 600 hydraulic structures, of which 54 percent would be forty years old or older by 2000, and on its thousands of miles of roads, breakwaters, jetties, dikes, levees, and floodwalls.

The REMR-II program covered seven areas of research. In the concrete and steel area, the program compiled existing data on the use of precast concrete for the repair and rehabilitation of concrete structures and the use of roller-compacted

concrete for the repair of dams. Researchers in the geotechnical area drew up better guidelines on biofouling and chemically cleaning wells and initiated a workshop on levee rehabilitation and studies on levee stability, requirements for seismic steadiness of foundations, and the reduction of rock erosion in spillway channels. In the field of hydraulics, engineers improved the STREMER numerical model, reviewed existing flow modeling technology, and initiated studies on icing of machinery at COE structures. Researchers in the coastal area completed the construction of a 3-D fixed-bed physical model to study the underlying stability of coastal structures, and they calibrated the model for regular wave tests. Electrical and mechanical researchers initiated studies on the removal of lead pigmented paint, a universal volatile organic compounds-compliant coating system, a failure diagnostic guide, cavitation repair materials, and testing procedures for cathodic protection systems. Experts in operations management completed condition index systems for tainter and roller dam gates and for steel, timber, and hybrid breakwaters and jetties. The REMR-II program also published four REMR information bulletins, issued a technical supplement to the REMR Notebook, and incorporated REMR technology into civil works engineer manuals.

Medical Research and Development

During FY 1992, Army scientists demonstrated the feasibility of a new approach to protecting soldiers against nerve agents. Before this breakthrough, a combination of four different drugs, which a soldier took before and after exposure, had proved effective against the lethal effects of many anticholinergic agents. However, side effects—including tremors, convulsions, apnea, and general malaise—often caused diminished per-

formance, general incapacitation, or hospitalization. To eliminate or significantly reduce the side effects while simplifying the purification process, researchers experimented with large doses of purified acetylcholinesterase (AChE), the target enzyme of organophosphate nerve agents. These doses seemed to act as "scavengers," binding to organophosphate molecules in the bloodstream before they reached their target. Such treatment completely protected monkeys against ordinarily lethal doses of the nerve agent soman. The monkeys not only appeared normal to the casual observer, but their performance on sophisticated behavioral tests also remained unaffected. If AChE proves safe for humans, future soldiers can rely on simpler, less toxic, and more effective protection against nerve agents.

Through NASA's space shuttle, Army researchers were also conducting important work on cell growth and tissue loss in space. In March 1992, the space shuttle carried the U.S. Army Medical Research and Development Command's (USAMRDC) Space Tissue Loss Module on its initial flight. This mission revealed that in space the primitive muscle cells that normally repair damaged muscle failed to change into mature muscle cells. These results, as well as similar findings in the cases of the immune system and bone cells, caused researchers to speculate on the possibilities of growing cells in a primitive state in space and then bringing them back to earth to treat certain human diseases, trauma, and infection. A second shuttle flight, scheduled for November 1992, will extend these experiments to human bone marrow stem cells and another cell that produces antibodies against malaria.

As part of society's war against AIDS, Army medical researchers conducted tests for the safety and effectiveness of a variety of potential vaccines. Using DNA biotechnology to produce several pieces of the harmless "envelope" that ordinarily surrounds the virus' RNA replicating mechanism, they vaccinated with gp160 HIV-positive volunteers in the very early stages of infection. In one study of this vaccine, test subjects showed an increase in the HIV-specific immune function, no adverse systemic reactions, and only mild local reactions at the site of injection. A surprising and potentially significant additional finding was that the prospective vaccine appeared to slow the progression of the disease, as measured by the number of circulating immune system CD4 cells. Should larger Phase II studies under way at the end of FY 1992 confirm this discovery, it would represent one of the first demonstrations of the successful use of a normally preventive vaccine as a therapy for patients already infected.

Along with their work on nerve agent antidotes, tissue loss, and AIDS, Army medical scientists conducted other research with potentially far-reaching effects. At the end of the fiscal year, the USAMRDC turned to

40,000 Thai children to conduct the world's first test of a vaccine against waterborne hepatitis A. The Army and a commercial collaborator had jointly developed the vaccine, using the results of basic research conducted at the Walter Reed Army Institute of Research over the last decade. Army medical researchers also worked with the Army Ranger School to minimize the effects of the grueling nine-week course on student health without lowering its standards for leadership training. Research showed that the course's combination of stress, sleep deprivation, and caloric restriction not only produced a significant loss of lean body mass and muscle strength but also impaired the body's immune functions as early as four weeks into the course. At the end of FY 1992, the Army was conducting more studies to assess the effectiveness of increased rations and other changes in reducing medical attrition.

Space Research

The Army expects many of its future advanced technologies to emerge from its space programs. For forty years, the Army has played a major role in the national space program by producing the first American satellite in orbit, the first American ballistic missile, and the only antiballistic missile system deployed by the United States. The Army uses its space assets for a number of purposes, including communications, weather and environmental monitoring, reconnaissance, surveillance, target acquisition, mapping and charting, digital terrain analysis, navigation, and missile warning. During FY 1992, the U.S. Army Space and Strategic Defense Command's research and development effort supported research on strategic and tactical missile defense systems and other space-related technologies in accordance with the Missile Defense Act of 1991. Given the Army leadership's vision of space as a normal and integral part of future Army operations, the Army needed to explore new and improved capabilities and so influence the design of satellites and ground components to ensure that its requirements were met.

Weapon Systems

Army planners expected the battlefields of the future to be contested by fast-moving forces using weapons of unprecedented lethality. On the new battlefields, Command, Control, Communications, and Intelligence (C3I) systems would provide commanders with the timely information needed to synchronize the employment of their forces. Commanders would then employ highly lethal weapons against enemy forces at ranges beyond visibility, and land maneuver forces, operating at a much faster tempo than in the past, would overwhelm and destroy the enemy in all

kinds of weather. The Army leadership during FY 1992 believed that the Army was capable of decisive victory because of its high quality soldiers, realistic training, and sound doctrine. To minimize friendly casualties, however, the Army needed to modernize its technology, enabling it to apply overwhelming and decisive combat power. The Army intended to achieve its modernization objectives through both cost-effective modifications and introduction of new technology to improve current and future combat capabilities. In line with the Department of Defense's emphasis on improvements in existing systems rather than development of new ones, the Army planned to acquire new equipment only when it showed the potential for a major payoff or fixed a specific shortcoming. The size of the Army would be a critical variable in this process since, as the Army shrank in size, it must become even more modern and technologically superior.

After rigorously analyzing the changing world political and military situation and reviewing the lessons learned from recent combat operations, the Army produced a modernization strategy that focused on long-term technology. To assure technological superiority, the Army set five modernization objectives necessary to establish land force dominance. These were to project and sustain the force, to protect the force, to win the battlefield information war, to conduct precision strikes throughout the battlefield, and to dominate the maneuver battle.

Because of the increasing lethality of modern weapons, the Army staunchly maintained that the protection of U.S. forces was a critical part of any modernization strategy. The Army not only needed to continue to deny the enemy knowledge of the locations and operations of its units, but also to defeat attacks when they came. In particular, Operation DESERT STORM demonstrated to the Army the importance of tactical missile defense in any foreseeable contingency to protect critical ports, airfields, and population centers. The Patriot missile, which the Army had used

against Iraqi Scud missiles, provided a limited counter to the broader theater ballistic missile threat. During the fiscal year, the Army in coordination with the other services undertook several programs to improve existing systems and to develop new weapons to defeat theater ballistic missiles. In addition, the Army reemphasized its requirement for an effective counterbattery capability to defeat enemy artillery and for an improved ability to operate in a chemical environment.

To win the information war, the Army leadership realized that it needed to gather information, process it, and transmit it around the battlefield, while denying the same capability to any enemy. Researchers investigated sensors that located and identified targets. They also examined intelligence fusion systems, smart munitions, and systems that disrupted or destroyed the enemy's information flow.

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The Army needed to interdict and destroy enemy forces throughout the battlefield in order to conduct synchronized and decisive operations. To accomplish this, American forces required modern artillery, attack helicopters, and missiles with sufficient range. In addition, the munitions had to be capable of destroying moving vehicles and high-priority mobile targets, such as tactical missile launchers. Army units also needed the ability to concentrate and coordinate indirect fires and massive helicopter attacks against enemy maneuvering formations.

Army doctrine held that decisive operations culminated in the destruction of the enemy's land combat capability and that the Army needed superior maneuver forces to win the direct fire battles. One way to attain this capability was the use of the microprocessor on the battlefield, enabling American forces to rapidly pass information on enemy and friendly forces' locations among their combat units. Digitization of the battlefield would facilitate decisive maneuver and help reduce fratricide. It would also make possible timely force synchronization and the ability to deliver highly accurate, massed fires from widely dispersed locations.

The key to the successful execution of this strategy was the concept of continuous modernization, which the Army based on the five modernization objectives. Continuous modernization meant that for every class of major weapon system the Army would seek to have a system in production, an upgrade in progress, or a replacement system in development. Planners maintained that a break in this cycle would stagnate technology, diminish the industrial base, erode critical skills, delay fielding of systems, and dull the Army's warfighting edge. Continuous modernization would sustain combat forces, capabilities, and the entire acquisition system.

As in other areas, the Army tried to do more with less in the field of research, development, and acquisition during FY 1992. The Army reorganized its RDA agencies and tried, through continuous modernization, to ensure that the soldier would have the most up-to-date weapons systems at his disposal, even in a period of budget reduction. Research continued in a number of critical areas, such as civil works and medicine. The Army leadership planned to give resources only to those programs that met a strong user requirement, giving first priority to the warfighting needs of the soldier.

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Organization and Management

During FY 1992, a time of declining personnel strengths and shrinking fiscal resources, the Army made several changes in its organization and management procedures to improve efficiency. Among other measures, the Army leadership relied more fully on automation to manage personnel and materiel. Faced with the decline in personnel and resources, planners prepared budgets for fiscal years 1992 and 1993 that reflected the changes proposed by Congress and the administration.

Organization

During FY 1992, the Army made several changes to its Table of Distribution and Allowance (TDA) organization. Implementing a proposal in President Bush's State of the Union Address in January 1991, the Department of the Army created in July 1992 the new U.S. Army Space and Strategic Defense Command (USASSDC) from the U.S. Army Space Command (USARSPACE) and part of the old U.S. Army Strategic Defense Command (USASDC). Maj. Gen. Donald M. Lionetti became the first commander of the new headquarters. From part of the old USASDC and the U.S. Army Missile Command, the Army formed the Program Executive Officer for Global Protection Against Limited Strikes (PEO-GPALS) as an agency separate from USASSDC.

The PEO-GPALS established its headquarters in Arlington, Virginia, but most of its personnel were located in Huntsville, Alabama. Its mission was the development of systems to counter the threat of ballistic missiles in an increasingly unstable world. The new organization contained two program offices: the Army National Missile Defense (ANMD), which would provide ground-based and space-based sensors to protect the United States from long-range ballistic missiles, and the Army Theater Missile Defense (ATMD), which would safeguard deployed U.S. forces and American allies. The ANMD program staff focused on the Ground Based Interceptor (GBI), Ground Based Radar (GBR), Ground-based Surveillance and Tracking System (GSTS), Site Development Project Office, and Regional Operations Center. The ATMD program office han-

dled the Patriot, Theater High Altitude Area Defense (THAAD), Extended Range Interceptor (ERINT), CORPS SAM, ARROW, and Extended Air Defense Test Bed (EADTB) projects.

Under the reorganization, USASSDC performed many functions. With the addition of USARSPACE, USASSDC had the mission of space operations. As a subordinate command of USASSDC, USARSPACE coordinated the Kinetic Energy Anti-Satellite project, the Mid-Infrared Advanced Chemical Laser/SeaLite Beam Director, the Advanced Communications Technology Satellite, Milstar, and the Army Space Exploitation and Demonstration Program. The command also operated the Army post at Kwajalein Atoll in the Marshall Islands and several field offices across the United States. Even with the addition of the space mission, however, the USASSDC's primary responsibility was management of Army strategic defense research and development for the Strategic Defense Initiative Organization. The command also administered the Department of Defense-funded High Energy Laser Systems Test Facility at White Sands Missile Range, New Mexico.

Using Defense Management Report Decisions (DMRD), the Office of the Secretary of Defense continued to merge functions, both within the Army and at the DOD level. The most significant of these mergers consolidated the services' commissaries under the Defense Commissary Agency. Effective 30 September 1991, the Army shifted over 9,000 civilian positions to DOD and dissolved the U.S. Army Troop Support Agency, an Army Staff field operating agency. On 1 October 1991, the Army transferred the latter agency's Army Commissary System, Directorate of Clothing and Services, and Army Food Service to the Defense Commissary Agency, Army Materiel Command, and Training and

Doctrine Command, respectively. As a result of the savings and budget reductions identified by DOD in the DMRDs, the Army also established the Strategic Logistics Agency (SLA) to administer short-term and longer-range logistical initiatives.

During the fiscal year, the Army made several changes in its personnel organization. In 1980, the Army had established the Soldier Support Center-National Capital Region (SSC-NCR) under the Soldier Support Center to consolidate personnel support functions previously handled by ODCSPER, TRADOC, and PERSCOM. The SSC-NCR became the United States Army Personnel Integration Command (USAPIC) in 1989, but USAPIC remained subordinate to the Soldier Support Center until 1 October 1991. On that date, USAPIC became the Deputy Chief of Staff, Personnel Integration (DCSPI), in PERSCOM, in line with the PERSCOM VANGUARD implementation plan. PERSCOM thus assumed the responsibility for producing the Personnel Management Authorization Plan (PMAD) and the Update Authorization Document (UAD). These two

documents allowed the personnel community to update and edit manually personnel authorization data, which helped managers make critical decisions on accessions, assignment of personnel, training, promotions, and downsizing. The PMAD also provided timely personnel authorization information to personnel managers throughout the Army.

As a result of the incorporation of the USAPIC into PERSCOM, the Manning Integration Directorate of USAPIC became the MANPRINT Division of the DCSPI, PERSCOM. This division managed the Army MANPRINT Training Program and served as the Army's Manpower, Personnel, and Training (MPT) Integrator. In the latter role, it acted as the Army's proponent for MPT methodologies, developed guidance and procedures for MPT integration into the MANPRINT process, analyzed the impact of proposed and ongoing materiel acquisitions upon Total Army MPT, and carried out independent MPT assessments of major systems. For fiscal years 1992-2002, the ODCSPER's MANPRINT Futures Task Force proposed that the MANPRINT Division manage MANPRINT training, produce MANPRINT assessments, and maintain the FOOTPRINT database on the Direct Support System. Other duties would include the development of the Operator/Maintainer Decision that identified all new or improved items of equipment entering the Army inventory and the collection, cataloging, and distribution of technical information on MANPRINT methods, tools, and techniques.

The Army carried out other major organizational changes during FY 1992. The Army Medical Specialist Corps (AMSC) underwent its most fundamental structural change since its authorization on 16 April 1947 as the Women's Medical Specialist Corps, adding the Physician Assistant Section to its organization and including Army physician assistants as commissioned officers in the corps. In addition, the AMSC increased from three to four medical specialties and more than doubled its active duty personnel strength, which, for the first time in AMSC history, was predominantly male. As a result of the Army's downsizing and an FY 1991 VANGUARD recommendation approved by the Army Chief of Staff, in June 1992 the ROTC Cadet Command announced the closure of the Third ROTC Region headquarters at Fort Riley, Kansas, effective in December 1992. The responsibilities and ROTC units would be transferred to the other three Cadet Command regions. The Army also eliminated twelve brigade and battalion headquarters from the Army Recruiting Command. In addition, it reorganized the military intelligence community and reduced and restructured the Criminal Investigation Command.

Laboratory Consolidation

Responding to President Bush's February 1989 directive to implement the recommendations of the Packard Commission, the Deputy Secretary

of Defense in October 1989 issued a draft DMRD challenging the services to create a new, more efficient, and less redundant approach to science and technology management. The Army responded with the Laboratory 21 (LAB 21) study to improve its laboratories. LAB 21 built upon reforms instituted since 1986 in the Army's Program Executive

Officer (PEO) and Program Manager (PM) organization. Planners applied a set of uniform guiding principles to evaluate the Army's laboratories and research centers for productivity, efficiency, and quality. They identified four distinct research and development domains: the combat materiel domain, the infrastructure domain, the medical domain, and the manpower, personnel, and training domain. Each of these areas possessed a unique focus, customer base, product line, and product approval and acquisition process. Analysts considered consolidation across these domains to be counterproductive but contended that savings were possible through consolidation within these areas.

In all, the Army planned to consolidate forty-one laboratory functions into twenty-one restructured organizations. These included the Army Research Laboratory, 6 Medical Research and Development Command laboratories, 4 Corps of Engineers laboratories, the Army Research Office, 8 materiel-developing Research, Development, and Engineering Centers, and the Army Research Institute of Behavioral and Social Sciences. These laboratories would conduct most of the Army's Technology Base programs. A key element of LAB 21 was the creation of a world-class "flagship" laboratory, the Army Research Laboratory (ARL), within the domain for combat materiel. The ARL would maintain the basic core capabilities essential to the Army, including advanced computing and software, battlefield environment effects, electronics and power sources, human research and engineering, materials, vehicle structures, vehicle propulsion, survivability and lethality analysis, weapons technology, sensors, signatures, signal, and information processing.

The Army managed to obtain most of what it wanted with regard to a consolidated Army Research Laboratory. It included the planned consolidation of the ARL in its base closure and realignment submission to OSD, and Congress eventually passed most of these recommendations into law on 2 October 1991. In December, the military deputy to the Assistant Secretary of the Army for Research, Development, and Acquisition (ASA [RDA]) requested that Army Materiel Command (AMC) submit a plan for the consolidated ARL. The ASA (RDA) approved the plan on 13 March 1992, and the Army provisionally established the new ARL on 1 October 1992.

From interservice discussions regarding reduction of overlap in research, development, test, and evaluation (RDT&E) activities came "Tri-Service Science and Technology Reliance," or Project RELIANCE, one

of the most comprehensive restructuring efforts involving the science and technology base of the Department of Defense. The Project RELIANCE study phase lasted from September 1990 to March 1991, when dozens of interservice working groups examined twenty-eight technology areas that were of interest to two or more services and showed the potential for better coordination between the services. The working groups completed the "Tri-Service Reliance Strategy Report" in April 1991, and by late November each of the three assistant secretaries for research, development, and acquisition had directed full implementation of the report within his service.

Project RELIANCE led to the reduction in the number of Army medical research laboratories from nine to six and collocation of seven tri-service medical programs at single service sites. Under its provisions, the Army would dissolve the Letterman Army Institute of Research, the Biomedical Research and Development Laboratory, and the Institute of Dental Research. It also would consolidate its trauma research and medical materiel development facilities with existing Army medical RDT&E facilities, relocate its programs for blood research and combat dentistry research with those of the Navy, and station its programs for laser and microwave bioeffects with those of the Air Force. In addition, Army and Navy research on biodynamics, environmental quality, and occupational health would be stationed alongside that of the Air Force. The Navy's infectious disease research and the Air Force's environmental medical programs would move in with the Army.

The Army implemented recommendations of Project RELIANCE during FY 1992. OSD and the Army included the medical realignments in their submission to the Base Realignment and Closure (BRAC) Commission on 15 April 1991. On 15 December, the military deputy to the ASA (RDA) requested that the Medical Research and Development Command submit an implementation plan for the BRAC-approved realignments and disestablishments. The ASA (RDA) approved the implementation plan on 24 April 1992, and disbandment of Letterman Army Institute of Research and the Biomedical Research and Development Laboratory followed on 27 March and 12 June 1992, respectively.

Project RELIANCE and LAB 21 left in the air the issue of the Research, Development, and Engineering Centers (RDECs). The Army had initially considered but then removed the RDECs from the LAB 21 study in favor of a more focused study, Vision 2000, which had sought to develop an organizational and operational plan for the centers in light of known and anticipated personnel cuts. The Army had planned to include Vision 2000's recommendations in a BRAC submission but dropped these plans when it discovered that their implementation required significant funding.

On 21 July 1992, the Secretary of the Army requested that the Army Science Board (ASB) review the AMC RDEC business plans during the Program Objective Memorandum (POM) process to address various levels of funding across the POM. An ASB ad hoc panel reviewed LAB 21, Defense Management Report Decision 922, Project RELIANCE, Base Realignment and Closure 91, the Federal Laboratory Commission on Consolidation and Conversion, and the Laboratory Demonstration Program. It used the technology classifications developed under Project RELIANCE for its peer review of the technologies being worked on in each research center and then evaluated the RDEC business plans to judge their relevance to the Army customer at a time of increased emphasis on technology infusion. The ASB Ad Hoc Study, completed on 1 October 1992, recommended reducing the centers. At the end of the fiscal year, the final report remained unfinished.

The reductions and reorganizations of the Army's laboratory system were part of overall Army restructuring and downsizing as a result of a declining budget and reduced force strength during FY 1992. The Army expected that the LAB 21 and Tri-Service RELIANCE programs would revitalize its laboratories and strengthen its research and development establishment enough to compensate for the reductions in personnel and funding. This outcome would assure that the Army had the necessary technology to address future challenges in accordance with the new OSD strategy for science and technology.

Base Realignments and Closures

The Base Realignments and Closures (BRAC) process was intended as an apolitical means of designating surplus facilities for closure as part of the overall federal effort to downsize the military establishment in the aftermath of the Cold War. The recommendations of the Secretary of Defense's 1988 Commission on Base Realignments and Closures received the designation BRAC I. Additional 1990 recommendations by the service secretaries became BRAC II, and overseas closures received the label BRAC III. BRAC 91 stood for the recommendations for 1991 and BRAC 93 for the 1993 recommendations.

During FY 1992, the Army proceeded with the implementation of the earlier BRACs. Under BRAC I, the Army shut down fifty-eight of the seventy-six active Army installations recommended for closure, completed the phaseout of training at Fort Dix, New Jersey, except for Air Base Ground Defense training, and moved the ammunition storage mission of Pueblo Depot Activity to the Red River Army Depot. In addition, the Army transferred Fort Douglas, Utah, to the University of Utah and 7,600 acres at Fort Meade, Maryland, to the U.S. Department of the Interior. Under BRAC II, the Army inactivated the Mississippi Army Ammunition

Plant and began to shut down the Sunflower Army Ammunition Plant. The Army also returned 217 installations outside the continental United States to host nations under BRAC III. For BRAC 91, the Army started the transfer of the 5th Infantry Division (Mechanized) from Fort Polk, Louisiana, to Fort Hood, Texas. As part of BRAC, several recruiting units relocated during the fiscal year. In accordance with the Defense Base Closure and Realignment Act of 1988, the U.S. Army Recruiting Command (USAREC) moved from Fort Sheridan, Illinois, to Fort Knox, Kentucky. The U.S. Army Recruiting Support Command, currently stationed at Cameron Station, Virginia, was to relocate next to the USAREC headquarters.

After achieving some—but not all—of their objectives in BRAC 91, Army planners expected, with assistance from the MACOMs, to explore further adjustments to the base structure in BRAC 93. Although the Army had received no

mandate to close or realign additional installations, planners anticipated DOD pressure to do so and wanted to satisfy themselves that the Army had no excess installations. After the Army Chief of Staff and the Director of Management provided initial BRAC 93 guidance to the MACOMs and the Army Staff, the Vice Chief of Staff on 9 July approved the Army Basing Strategy, which served as the foundation for the MACOMs' approach to BRAC 93. This design backed closures and consolidations to improve efficiency and cut long-term costs, but it stipulated that these actions must be governed by current commitments, fiscal requirements, the need to maintain a quality infrastructure for the Army, and the need to minimize the effect on soldier families and the local communities. Shortly after releasing the strategy, on 1 August 1992 the Army established the Total Army Basing Study (TABS) Group and directed it to prepare the Army's BRAC 93 recommendations.

The BRAC 93 process for the Army consisted of two stages. During Phase I (August-September 1992), the various MACOMs—AMC, FORSCOM, TRADOC, USARPAC, Intelligence and Security Command (INSCOM), Information Systems Command (ISC), Military District of Washington (MDW), Health Services Command (HSC), and National Guard Bureau (NGB)—assessed the military value of their installations using categories, weighted factors, and a decision support model provided by TABS. After balancing these factors against other considerations, planners completed detailed analyses before presenting a BRAC recommendation. Headquarters, Department of the Army, agencies, MACOMs, and TABS then identified BRAC 93 study candidates based upon the Army Basing Strategy, the MACOMs' strategies, and planned force structure. During Phase II, TABS would analyze those study candidates approved by the Undersecretary of the Army and the Vice Chief of Staff for the Army's BRAC 93 recommendations. As with

BRAC 91, all BRAC recommendations had to meet the DOD selection criteria and force structure plans.

Total Quality Management

During FY 1992, the Army leadership established Total Army Quality (TAQ) as the Army's management philosophy. TAQ sought to enable all members of the Army to do the right things, the right way, for the right reasons. It focused on continuous improvement, attempting not only to meet but to exceed the expectations of all Army customers. In short, it represented the Army's approach to Total Quality Management (TQM).

The Army devoted much of the fiscal year to developing a strategy for implementing TAQ. At a TAQ training workshop in October 1991 in Hampton, Virginia, seven eight-person teams, aided by facilitators from the Army Management and Engineering College, sought to align the Army's management philosophy with TQM principles and to develop training strategies to implement TQM. The workshop also prepared a draft revision of the Army Management Philosophy (AR 5-1), which the Army published, effective 13 July 1992, after review by Army commanders and HQDA principals. To develop more fully the concepts of implementation presented at the workshop, an Army-wide team met in Atlanta in February 1992 and produced an implementation strategy, which the Army Chief of Staff and the Secretary of the Army signed on 25 September 1992. In addition, the Director of Management, Maj. Gen. Thomas M. Montgomery, formed the Army Management Division on 1 February 1992 to develop, coordinate, and implement the Army's management philosophy and to provide staff support to the Army leadership on management issues. With the encouragement of the Under Secretary of the Army and the Vice Chief of Staff, the commanding general of TRADOC moved to integrate TAQ throughout the Army's training and educational systems by 1 August 1992.

Army Membership on the Conference Board

In February 1992, the Army joined the Conference Board, a 75-year-old nonprofit organization dedicated to improving the business enterprise system and to enhancing the contribution of business to society. The board sponsors a variety of forums for the exchange of ideas and experiences among senior executives from the public and private sectors, distributes reports and periodicals on business issues, and maintains informational materials on a broad range of topics of interest to its members. The Army joined the Conference Board to expose its leadership to current management practices and business ideas as well as to promote Army programs, such as the Army Career and Alumni Program, within the business community. During FY 1992, the board elected Douglas A. Brook, the

Assistant Secretary of the Army for Financial Management (ASA [FM]), to serve on its Council of Financial Executives, and it also selected W J. Haynes III, General Counsel of the Army, to join the Council of General Counsels.

Financial Management

In the 1990s, the Army faced a number of issues that had a significant impact upon financial management. The Army sought several ways to promote sound management and innovative ways of doing business, notably through the Defense Management Review (DMR) process. The major objectives of this process included the principle of "users pay for services" and the elimination of any function, organization, equipment, or facility that did not contribute to the Army's mission. During the fiscal year, the Army participated in over seventy-five DMR initiatives that were predicted to save over \$20 billion and eliminate about 21,500 civilian jobs and 10,300 military spaces between fiscal years 1991 and 1997. During fiscal years 1991 and 1992, the management review process helped the Army save nearly \$1.7 billion, thereby enabling the service to preserve force structure and continue purchases of military hardware. Two of the major management improvements that affected Army financial operations were the creation of the Defense Business Operations Fund and the consolidation of the Department of Defense's and the services' finance and accounting operations.

There were several different types of Army funds. General funds contained most congressional appropriations, including operations, research and development, and investment/construction accounts. Revolving funds, balancing outlays with repayments, were an effective means of financing inventory and controlling costs. The Army operated two revolving funds: the conventional ammunition working capital fund, which showed an operating profit of \$232.9 million during FY 1992, and the Corps of Engineers (COE) Civil Works fund, which showed an operating profit of \$12.7 million. The Army also maintained a number of trust funds that, unlike the reimbursable revolving funds, received revenues directly from various sources for specified expenses. Civil works trust funds included the Inland Waterways Trust Fund (IWWTF), the Harbor Maintenance Trust Fund (HMTF), and Rivers and Harbors, Contributed Funds. The Army trust fund showed an operating deficit of \$100,000 and the Civil Works trust fund an operating surplus of \$238.3 million, respectively, during the fiscal year. Army-managed special funds could be used only in accordance with specific provisions of law during FY 1992.

The Army generally used deposit funds to hold assets that were awaiting legal determination or were being maintained by the service as agent

or custodian. Since the Army required that all check collections pass through a deposit fund, these accounts also acted as repositories for unidentified remittances. During the fiscal year, the Army maintained twenty-four deposit accounts and the COE (Civil Works) ten deposit accounts.

The creation of the Defense Business Operations Fund (DBOF) had a major impact on the Army's financial operations. Effective 1 October 1991, the Army transferred the Army Stock Fund, the Army Industrial Fund, and the Military Traffic Management Command Fund to DOD. The amounts from the Army Stock Fund included assets of \$16.9 billion and liabilities of \$1.3 billion. The assets and liabilities of the Army Industrial Fund totaled \$2.9 billion and \$342 million, respectively.

The former funds became the Supply, Depot, Maintenance, and Transportation Business Areas of the DBOF. Supply Management, Army, a business area under the DBOF, replaced the Army Stock Fund. This business area paid for the acquisition, storage, distribution, and repair of secondary items, including depot-level reparable. It also funded wholesale logistics operations for secondary items, including personnel pay, rent, supplies, and temporary duty. The area's budget for FY 1993 will support a sales program of \$11.48 billion, while the FY 1993 Reapportionment Request included \$4.796 billion for retail elements and \$3.261 billion for wholesale elements.

With the creation of the DBOF, responsibility for the purchase of automation equipment and changes to automated logistics systems moved from Operation and Management, Army (OMA), and Other Procurement, Army (OPA), accounts to the DBOF Capital Account. This account was controlled by the Joint Logistics System Center (JLSC), a source of some discomfort to the Army leadership. With the JLSC establishing priorities and determining project funding, the Army leadership effectively lost control of its logistics systems to joint agencies, leaving them without knowledge of available resources as they planned their programs.

The Army did manage these DOD-funded activities, but DOD called for significant changes in their operation. In the past, for example, the Army had provided many of these services at no cost. But business areas would now operate under a "cost per unit" concept in which they defined their products, set the cost of providing them, and charged customers for services or supplies. Starting in FY 1992, the individual components or business areas competed with each other and private sector companies for their customers' business. The DBOF reported \$14.9 billion in Army-managed inventories as of 30 September. During FY 1992, DBOF components also completed intragovernmental sales worth \$8.8 billion.

As part of the post-Cold War downsizing, the Army shifted some missions common to all of the services to the Department of Defense. The

consolidation of finance and accounting operations stipulated by the DMR transferred the responsibility for most accounting systems and their operation from the services to DOD. At the direction of the DMR, the Defense Finance and Accounting Service (DFAS) established a group of senior representatives from DOD components to develop an implementation plan for the transfer of personnel, resources, and assets to the DOD. The transfer would affect approximately 4,450 civilian and military spaces in the Army, although it would exclude finance officers serving the reserve components, COE, and tactical units and, initially, include only accounting, accounts payable, and disbursing tasks. At three sites, the Army experimented with capitalization of the entire finance office, including the additional functions of military pay, civilian pay, and travel.

As directed by the DMR, on 1 April 1992, the Army began the Stock Funding of Depot Level Reparables (SFDLR) at the retail level. Users of major components of Army systems, such as tank engines and helicopter transmissions, now had to budget for their purchase instead of receiving them without charge. The Army ensured that each MACOM had enough funds, using the guidance of the OPTEMPO Working Group of the Program Budget Committee, which drew on historical needs and ODCSLOG-established credit rates. The Army structured the system to encourage the MACOMs to repair old parts and components rather than purchase new ones.

The Army took several other initiatives under the DMR during FY 1992. These initiatives included the transfer of distribution functions at nine Army depots to the Defense Logistics Agency, the retirement of over 55,000 worn-out or obsolete vehicles, and the streamlining of the AMC through the reduction of organizational and supervisory layers. The Army also consolidated thirty-two data processing facilities into six regional centers; centralized the design, development, and maintenance of Army software programs; and through consolidation reduced the number of correctional facilities from fourteen to nine.

Much of the Army's attention in the field of financial management was devoted to implementation of the Chief Financial Officers' (CFO) Act. On 15 November 1990, President Bush had signed the act, which established CFOs in twenty-three Executive Branch agencies and adopted several other measures to improve financial management in the federal government. The Department of Defense then selected the Army to participate in a pilot implementation program that would cover the service's operations in fiscal years 1991 and 1992. In compliance with the act's requirements, the Army prepared its first-ever Annual Management Report, covering FY 1991 operations. This "corporate" style report, which would be a continuing annual requirement, included an organizational overview of mission descriptions and accomplishments, audited financial statements, and an

independent audit requirement. In accordance with the last provision, the FY 1992 audit was under way at the close of the fiscal year.

This baseline financial audit, which measured the Army's compliance with the act's standards, was critical. Following the principles of the CFO Act, Secretary of the Army Michael E W Stone established a Senior Level Steering Group and a Special Action Group to review the audit's findings and develop corrective actions. The Secretary realized that the Army must continually improve its decision-making processes to maintain its credibility as an effective steward of public resources, and he believed that careful attention to the audit would be a step in that direction.

Creation of the Defense Health Program

To reduce duplication and save resources, the Office of the Secretary of Defense had been considering for some time the consolidation of the command and control structures and fiscal resources of the services' medical programs. After several months of study and coordination with the services, the Deputy Secretary of Defense decided to strengthen the position and responsibilities of the Assistant Secretary of Defense for Health Affairs (ASD [HA]) rather than establish a new Defense Health Agency. On 1 October 1991, he issued the memorandum "Strengthening the Medical Functions of the Department of Defense," which led to the establishment of a centralized Defense Health Program (DHP). The Assistant Secretary of Defense for Health Affairs received overall responsibility for the DOD medical mission and "authority, direction, and control" of the medical personnel, facilities, programs, funding, and other resources within the department. ASD (HA) was to prepare and submit a unified medical program budget that included all funding for the DOD and services' medical programs, including operation and maintenance, procurement, research and development, Civilian Health and Medical Program of the Uniformed Services (CHAMPUS), and medical facility construction. The memorandum also established a Defense Medical Advisory Council (DMAC), composed of a civilian appointee and a general officer from each department, to advise the ASD (HA) on military medical matters. These actions effectively moved health care planning, programming, and budgeting from the overall Army budget submission to that of ASD (HA). The Department of the Army, the Surgeon General, and HSC retained the responsibility for developing and processing of the annual Army medical budget within the Army's budgetary process before sending it to ASD (HA) for submission and also for execution of the approved program.

AMEDD Realignment

During FY 1992 the Surgeon General and HQDA continued to work on a basic reorganization of the Army Medical Department (AMEDD).

This process had been under way for several years as a result of QUICKSILVER and VANGUARD reductions, the Surgeon General's own internal reviews of the AMEDD command and control structure since the late 1980s, and the introduction of the Gateway to Care program in FY 1991. In December 1991, the Logistics Management Institute (LMI) completed a draft AMEDD Realignment Study after analyzing the alternatives as directed by the ASA (IL&E) in November 1990. The study recommended eliminating Headquarters, Health Services Command (HSC), at Fort Sam Houston, Texas, and establishing the U.S. Army Medical Command (MEDCOM) collocated with the Office of The Surgeon General (OTSG) in the National Capital Region. The Surgeon General would also serve as the commander of MEDCOM, under which HSC's CONUS-based medical structure and OTSG's field operating agencies would be consolidated and realigned. The ASA (IL&E) approved the further study of this approach in April 1992.

After resolving some manpower issues with HQDA, by late September 1992 the Surgeon General's Office had prepared a concept plan that was briefed to the Vice Chief of Staff, Army (VCSA), and ready for HQDA's consideration. The proposed realignment of AMEDD would produce a single command and control framework responsible for the Army medical mission worldwide; would link AMEDD assets into a high-quality, cost-effective, and accessible health care organization serving the Total Army; and would enhance planning, coordination, and integration of the Army-wide medical mission. Once HQDA approval was received, the Surgeon General would establish an organizational study

group that would refine the structure proposed in the concept plan and conduct a full assessment of AMEDD to develop organizational structures properly aligned with validated functions. When this process was completed and the realignment implemented, the Surgeon General believed that these changes would ensure medical readiness, improve AMEDD's delivery of health care to its customers, and promote relationships with the rest of the Army and DOD.

Financial Liabilities and Cost Estimates

During FY 1992, the Army was a party in various administrative proceedings, legal actions, environmental suits, and claims. Most were tort claims resulting from aircraft and vehicular accidents, medical malpractice, contract disputes, and property and environmental damages caused by Army activities and likely to entail sizable future costs for the Army. The Army expected that its largest future liabilities would consist of funds needed to control and clean up environmental hazards, especially costs associated with the chemical demilitarization program and the environmental program. The costs were difficult to estimate because of the uncer-

tainty involved in determining the extent of damage and the necessary processes.

The Chemical Stockpile Disposal Program was an unprecedented and extremely complex national program. Although it was closely managed, the Army expected its costs to increase as it passed from the planning and developmental phases into full-scale operations and also as it encountered changes in costs for facility construction and operations. During the fiscal year, the United States Army Cost and Economic Analysis Center helped formulate a structured review process for ensuring management control of the program and reducing its costs. The center also prepared an Army Cost Position to support the program's inaugural Army Systems Acquisition Review Council (ASA [RC]), which convened on 19 March 1992. The Army's 1992 estimate for the Chemical Stockpile Disposal Program was \$7.9 billion. Public Law 102-484 changed the program's completion date from December 2000 to 31 December 2004, and the Army planned to finish in April 2003.

Since the Chemical Stockpile Emergency Preparedness Program was still evolving during FY 1992, it was hard to estimate the future costs associated with it. Congressional interest in cryofracture and alternative technologies could result in the construction of an additional plant or an expensive technology development program. Lists of plant closures and estimates of dismantlement costs were partially available, but when the Army attempted to identify all possible expenditures at the end of the fiscal year, it concluded that costs could increase as the process defined cleanup criteria and established monitoring requirements. States and groups opposing on-site destruction or the incineration process could delay issue of permits or engage in litigation that would lengthen schedules and increase costs.

Costs associated with environmental activities and concerns represented a large percentage of the Army's prospective costs. The Army's environmental program had undergone tremendous growth in the decade preceding FY 1992. In the future, the service expected contingent liabilities from the environmental program to increase, but it could not estimate their cost, in part because the technologies used in environmental cleanup were still in the developmental stage. The Army also expected costs to rise as a result of increasingly stringent legal requirements and BRAC initiatives. It anticipated additional costs from the new authority of regulatory agencies, under the Federal Facilities Compliance Act, to fine federal agencies for noncompliance with the nation's hazardous waste laws.

The Army foresaw escalating expenses in restoration as it moved from the planning and study phase to the actual cleanup of contaminated sites, especially as it accelerated the cleanup of closing bases so that they could be returned to local communities. It also foresaw constraints on training

due to the need to take into consideration endangered species, wetlands, cultural resource sites, and soil erosion. While the Army estimated the cost of its environmental protection at close to \$14.3 billion, Army planners thought that an additional \$7.1 billion would probably be necessary.

Part of the high environmental liabilities stemmed from the continuing generation of low-level radioactive waste by Army activities around the world. Improper handling and disposal led to the listing of several sites as potentially contaminated. During FY 1992, the Army confirmed that 98 sites and 36 installations were contaminated and an additional 157 were suspected of contamination. Army managers, because of their limited experience with the cleanup of radioactive materials, found it difficult to determine the cost, but estimated the expenditure at \$294 million to \$471 million.

The Army handled legal claims under two federal statutes, the Federal Tort Claims Act and, for military claims, Title 10 United States Code, Chapter 163. The Army's liability for claims under the former act was limited to \$2,500 and under the latter to \$100,000. Awards and settlements over these amounts came from the Treasury Department's Claims, Judgments, and Relief Acts Fund. During the fiscal year, the Army was involved in five litigation actions, each involving a request for judgment of more than \$100 million. The Department of the Army was also a party to 626 contract appeals before the Armed Services Board of Contract Appeals (ASBCA) and the Engineer Board of Contract Appeals with a total potential liability of \$559.9 million. The Army successfully defended fifty-five contract claims worth \$9.2 million in FY 1992 and initiated contract claims worth \$87.4 million during the fiscal year. The total value of contract litigation against the Army, not involving claims before the ASBCA and the General Services Board of Contract Appeals, was \$992.6 million. Also in FY 1992, plaintiffs filed 110 medical malpractice claims—worth \$260.1 million—against the Army under the Military Claims Act and filed another 462 claims for \$4.705 billion pursuant to the Federal Tort Claims Act. A total of 8,697 nonmedical malpractice claims were filed for \$6.228 billion. The Army paid 7,155 tort claims totaling \$36.5 million.

The reduction of the military and civilian workforce created contingent liabilities—specifically, probable expenses for past personnel benefits and compensation. The Army estimated expenses for severance pay of U.S. employees, unemployment compensation, and continuing health benefits at \$2.2 billion through FY 1994, and planners believed an additional \$47 million might be necessary. The Army also owed \$319.1 million in workers compensation to current and former employees for the period 1 July 1990 through 30 June 1992. The payment would come from FY 1993 and 1994 appropriations, as applicable.

In response to the DOD Inspector General's 1992 report on cost estimates for major DOD acquisition programs, the Assistant Secretary of the Army (Financial Management) (ASA [FM]) established the Army Cost Review Board (CRB) on 2 April 1992. The CRB, which would begin work on 26 June 1992, was to recommend an Army Cost Position to the ASA (FM), who would employ it for major milestone reviews at the Army Senior Acquisition Review Council and the Major Automated Information System Review Council. Once the ASA (FM) approved the Army Cost Position, he would publish it in the Cost Analysis Brief. The CRB consisted of an ASA (FM)-appointed chair, the Deputy for Cost Analysis as the executive secretary, the Deputy ASA (FM) for the Army Budget, and the Deputy Director, Program Analysis and Evaluation, as permanent voting members. Others joined the committee depending on the issue at hand.

Productivity Capital Investment Program

Three productivity capital investment programs received funding during the fiscal year: the Productivity Investment Program (OSDPIP), the Army Productivity Enhancing Capital Investment Program (PECIP), and the Army Quick Return on Investment Program (QRIP). OSDPIP and PECIP projects each received over \$100,000 and had the same required amortization times—four years or less—but OSDPIP projects competed at the OSD level against Navy, Air Force, and Defense agency submissions. The Army considered projects that did not qualify for OSD funding for PECIP funding. The QRIP program underwrote projects costing less than \$100,000 and amortizing in two years or less. During FY 1992, funds allocated to the three programs totaled \$65.5 million, of which \$30.3 million were OSD funds and \$35.2 million were Army resources from Operation and Maintenance, Other Procurement, MILCON, and RDT&E accounts. Although specific numbers for a particular year were unavailable, the investments historically showed a 16 to 1 rate of return for the life of the purchased equipment. During 1992, the Office of the Secretary of Defense decided to eliminate funding for the OSDPIP beginning in 1993. As a result, the Army decided to eliminate central control and funding of PECIP and QRIP starting in 1994. However, the Army leadership expected the MACOMs to provide their own funding

for these projects.

NAF Centralized Cash Management and Investment Highlights

The decline in appropriated funds forced Army leaders during FY 1992 to reassess the use of nonappropriated funds (NAF) generated by Morale, Welfare, and Recreation (MWR) activities. NAF dollars had successfully supported MWR requirements in the past, and the Army leader-

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ship decided that, with adequate safeguards and good business judgment, these dollars could play a more significant role in the Army's future.

With the need to use NAF funds, however, came the need to improve guidelines for NAF procurement. These guidelines had to provide valid procedures to meet regulatory and internal control requirements without unduly restricting NAF procurement. Army planners decided that a centralized, independent NAF procurement office would be immune from the appearance of undue pressure or influence. At the same time, a separate office would stimulate more efficient and effective uses of NAF procurement through consolidated purchases, establishment of purchasing agreements, and provision of an information distribution center to support all areas of NAF contracting. The U.S. Army Community and Family Support Center designated their NAF Contracting Office as a separate directorate effective 1 October 1992. It would provide the same timely professional customer support required of any service organization.

The Army had already taken several steps to centralize NAF investments. In the early 1970s, the Army had begun to centralize those investments for maximum returns and improved oversight. In 1981, the Army inaugurated the Army Central Banking Program to improve banking services for installation NAF activities and to eliminate the estimated 25 percent of cash held in transition accounts. Now, in FY 1992, the Army Banking and Investment Fund took charge of both functions. The fund managed nearly all NAF generated and used by the Army's MWR program. Army installations worldwide deposited their cash receipts in local banks and then arranged for their transfer into the fund's central contractor bank. The Army Banking and Investment Fund daily calculated each installation's balance. Program managers wrote checks to withdraw funds for expenses. The banking fund removed cash not needed to clear daily checks from the contractor bank and invested it in securities issued by the United States Treasury and government-sponsored enterprises. At the beginning of FY 1992, the NAF investment fund stood at \$671 million and at the close of the year at \$633 million. During the fiscal year, the fund paid a compound interest of 7.02 percent to depositors, for a total of \$46.2 million.

Value Engineering

Value engineering was a unique program that encouraged contractors and Army officials alike to achieve greater efficiency in their operations. Value engineering contracts allowed the contractors to share up to 50 percent of the net three-year savings. The Army retained the remaining net savings to reduce procurement costs. A similar value engineering arrangement operated within the Army at depots, arsenals, and government-owned/contractor-operated plants, except that the Army retained all savings. During FY 1991, the Army's share of the program's total net savings

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had amounted to \$342.6 million. The Office of Federal Procurement Policy in the Office of Management and Budget (OMB) noted the program's success and requested that the Army help draft the revision of OMB Circular A-131 that would expand the value engineering program to all federal agencies. The OMB then published the circular in the 10 September 1992 issue of the *Federal Register* as a proposed rule for comment.

Commercial Activities Program

The Army had instituted the Commercial Activities Program to open the Army's commercial activities—such as

warehousing, buildings and grounds maintenance, utility plant operations, data processing, and food services—to competition. On 20 July 1992, the Vice Chief of Staff directed the Inspector General to conduct a "quick look" assessment of the program. The Inspector General visited five FORSCOM, two TRADOC, and two AMC installations, and a third AMC installation provided written input.

The Inspector General's report, which appeared on 9 October, found several problems in the program. The report stated that, while installation commanders acknowledged that the program had been a major catalyst for change, they believed it had outlived its usefulness. The commanders contended that the program was not timely, used too many resources, and was too restrictive and that efficiency reviews, budget cuts, and TQM would produce similar results at lower cost. They particularly expressed dissatisfaction with the number of staff personnel, the amount of paperwork, and the amount of time necessary to conduct a credible cost competition.

Several other aspects of the program drew criticism. At most Army installations, commercial activities management slots were among the first eliminated as a result of mandated personnel cuts. Installations also had no incentive to use the Commercial Activities Program, since they realized no savings except, possibly, during the year of implementation. In addition, commercial activities studies demoralized the civilian workforce, causing a drop in productivity. Inadequately trained contracting officer representatives and the lack of policy oversight, contract administration, and cost and price analysis at the installation level discouraged further use of the program. In sum, the commanders thought that the Commercial Activities Program should be optional and that they should have more latitude in managing their resources.

Budget

Fiscal Year 1992 Obligations and Outlays

The Army incurred \$86.5 billion of obligations in FY 1992, and outlays came to \$79.1 billion (*Table 6*). Because obligations exceeded out-

lays, Congress provided supplemental funds for such demands as hurricane relief, additional Operation DESERT STORM requirements, and environmental restoration projects.

TABLE 6—ARMY OBLIGATIONS AND OUTLAYS, FY 1992

Army Obligations:

<i>Appropriation</i>	<i>(millions)</i>
Military Personnel	31,962
Operation and Maintenance	30,444
Procurement	9,332
RD.T&E	8,105
Military Construction	2,880
Family Housing	1,487
Revolving Funds (CAWCF)	2,770
Other	-474
Total	86,506

Army Outlays:

<i>Appropriation</i>	<i>(millions)</i>
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Military Personnel	31,936
Operation and Maintenance	26,392
Procurement	12,844
RDT&E	5,976
Military Construction	824
Family Housing	1,550
Revolving Funds (CAWCF)	-91
Other	-282
Total	79,149

Status of FY 1993 Budget Request

The FY 1993 Army Amended Budget requested \$63.6 billion in total obligations, a \$4.2 billion decrease from the FY 1993 budget submitted in the FY 1992/93 Biennial Budget Submission. However, \$4.1 billion of the represented funds, such as the Army Medical Program and other programs, transferred to DOD, and \$100 million covered other budget adjustments, resulting in a 0.1 percent total reduction in the budget. Although the Army's Total Obligation Authority increased \$4.3 billion in FY 1992 to support Operation DESERT STORM, the budget fell 33 percent from FY 1986 to FY 1993. The President's FY 1993 budget request included the items shown in *Table 7*.

TABLE 7—FY 1993 ARMY BUDGET REQUEST

<i>Appropriation</i>	<i>(millions)</i>
Military Personnel	23,373
Operation and Maintenance	16,905
Procurement	6,814
RDT&E	5,414
Military Construction	1,010
Family Housing	1,556
Reserve Components	8,513
Total	63,587

The proposed budget funded TOE-unit readiness through various training allowances. OPTEMPO levels were 800 miles per year for ground vehicles and 14.5 flying hours per month for aircraft. The USAR was allocated an OPTEMPO of 200 miles per year for ground vehicles and 8.1 flying hours per month for aircraft. The ARNG OPTEMPO was 288 miles annually for ground vehicles and 9 hours per month for aircraft. The Combat Training Center Master Plan provided for 33 battalion rotations through the National Training Center (NTC), 25 battalion rotations through the Combat Maneuver Training Center (CMTC), and 16 battalion rotations through the Joint Readiness Training Center (JRTC), as well as 1 corps and 12 division rotations through the Battle Command Training Program. To support training, the Army funded depot maintenance at 79 percent of requirements.

Much of the proposed budget went to RDT&E and procurement of advanced technology. The RDT&E aircraft appropriation for FY 1993 deferred production of the Comanche helicopter but included funds for continued development of its prototype, as well as production of the Black Hawk UH-60 helicopter and funding for the New Training Helicopter, the RC-12 Guardrail Common Sensor, and continued fielding of the CH-47D Chinook and AH-64

Apache. The RDT&E missile appropriation continued procurement of the Avenger system, the Multiple Launch Rocket System (MLRS), the Hellfire Optimized Missile System with its improved warhead, and the Army Tactical Missile System (ATACMS). It also omitted funding for the terminated Air Defense Antitank System (ADATS). The RDT&E appropriation for weapons and tracked combat vehicles provided funds for the XM-35 gun for the Armored Gun System and continued procurement of the M119 Light Howitzer, while it reduced appropriations for the buildup of ammunition stocks and operation of several government-owned/contractor-operated ammunition plants. Other RDT&E procurement appropriations provided funds for improved tactical transportation in the form of the Family of Medium Tactical Vehicles (FMTV), Family of Heavy Tactical Vehicles (FHTV), and High Mobility Multipurpose Wheeled Vehicles

(HMMWV). RDT&E funding also helped to improve tactical command and control systems, antitank weaponry, and electronic countermeasures.

Construction and housing appropriations focused on efforts to meet environmental, health, safety, and essential quality of life requirements. The FY 1993 budget stressed the CONUS "Whole Neighborhood" renewal by allocating funds for construction of 200 housing units and improvements in 702 family housing units in Hawaii. The Army also funded Annual Recurring Requirements (ARR) at 62 percent for facilities and 94 percent for housing. The budget paid for chemical demilitarization at Anniston Army Depot and Pine Bluff Arsenal. In all, the budget provided \$555 million for full compliance with environmental standards, as well as \$563 million for environmental restoration.

Other elements of the Army's budget addressed personnel concerns. To reduce personnel end strength, the budget included incentives to induce voluntary separations and minimize involuntary separations, while providing transition assistance through the Army Career and Alumni Program. The budget also provided a 3.7 percent pay raise for the military and civilian workforce.

Significant Audit Findings

Using U.S. General Accounting Office Government Standards and the DOD Inspector General Internal Audit Manual, the U.S. Army Audit Agency (USAAA) conducts audits to find fraud, waste, and abuse and to determine whether Army activities are effective, economical, and efficient. In March 1992, Harold L. Stugart, the first Auditor General of the Army, retired, and Secretary Stone appointed Francis E. Reardon as his replacement. The new Auditor General initiated a Total Quality Management program to involve all agency personnel in the effort to improve customer satisfaction. The agency's executive group defined the agency's vision and objectives and established seven working groups to assess the agency's operations.

In the financial and personnel management area, one of the USAAAs most significant FY 1992 audits concluded that the Army's operational rations did not effectively support units deployed in the field. According to the report, the Army relied too much on meals, ready-to-eat (MREs), largely because peacetime use of tray rations (T rations) never reached the levels needed to adequately support a war reserve stock or an industrial base. During Operations DESERT SHIELD and DESERT STORM, the Army had to improvise a food system that was less reliant on tray rations. The auditors recommended updating the Army's master action plan for the field feeding system, making analyses to determine the best mix of operational rations, and reevaluating the need to increase tray production to satisfy ration

requirements for operations such as DESERT SHIELD and DESERT STORM. The Army agreed with the findings, recommendations, and potential monetary benefits, which the audit estimated as \$121.2 million.

Not surprisingly, the massive troop deployments during Operations DESERT SHIELD and DESERT STORM were accompanied by accounting irregularities. When the USAAA audited overseas transportation costs for the two operations, it found that faulty accounting procedures by transportation agencies resulted in incorrect coding of \$95.5 million of the \$1.3 billion in bills submitted to the Defense Finance and Accounting Center—errors that the center's

automated processing system did not detect. It also found that USAREUR and Seventh Army had understated cost offsets at a level of \$87 million, shifted approximately \$49 million to meet unfinanced requirements, understated operations costs by \$31 million, and inaccurately computed costs related to foreign currency fluctuations.

To recover about \$80.5 million, the auditors recommended revision of cost estimates, reduction of future budget requests by the amount of funds used for unfinanced requirements, and establishment of separate foreign currency fluctuation accounts to capture actual costs. The Army accepted the auditors' recommendation that the Finance and Accounting Center identify and correct erroneous transportation charges and expand the automated routine for processing bills in order to verify codes, and it also agreed with the USAAA's recommendations on transportation costs for USAREUR and Seventh Army. USAREUR and Seventh Army, however, did not fully agree with USAAAs recommendations on its procedures. At the close of the fiscal year, the Army was resolving these disagreements through official channels.

The USAAA also contributed to the Army's efforts to improve the overall management of test instrumentation. A USAAA audit found that researchers had not fully identified and documented the requirements for new test instrumentation and that Army policies and procedures did not require the participation in the budget process of all activities involved in the acquisition, development, or funding of instrumentation. Furthermore, the Army's automated test instrumentation system did not accurately show the availability of existing test instrumentation. The audit identified potential monetary benefits of around \$257.6 million. It believed such potential savings could be achieved through requiring all activities involved in test instrumentation to process requirements through the project manager, establishing procedures to identify requirements for instrumentation in installation budgets, and updating the Army's inventory of test instrumentation assets. The Army agreed with the auditors' findings, recommendations, and potential monetary benefits.

Several significant audit reports covered force management. An audit of tank training devices at the U.S. Army Training Center, Fort Eustis,

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Virginia, found that soldiers were making effective use of the Multiple Integrated Laser Engagement System (MILES), but it also discovered that the Army was using a platoon gunnery trainer that met the same training need, functioned similarly, and trained soldiers in similar tasks. Field commanders had acquired this trainer from commercial sources without following established guidelines. Auditors recommended that the center more closely monitor training device needs to avoid the development of duplicate devices, issue clarifying guidance on prescribed policies and procedures, and use gunnery training devices to reduce the firing of full caliber training rounds. The center agreed with the recommendations but not with the estimated savings of \$269.4 million. At the close of the fiscal year, the center and USAAA were resolving the disagreements through the command-reply process.

An audit of the Reserve Component Regional Maintenance Training Program concluded that the planning process for the program was ineffective. The auditors found that an analysis conducted to support nineteen of the twenty-one training sites overstated training requirements while failing to take into account the establishment of the European Maintenance Center or the downsizing of Army forces. Furthermore, planning did not ensure accurate training requirements for military occupational specialties and did not consider borrowing some special tools and test equipment from Reserve maintenance units that would deploy early. The report recommended that the Army eliminate four training sites and reevaluate four others, reduce the number of military occupational specialties taught at the sites, and use borrowed special tools and test equipment from early-deployable Reserve maintenance units, steps that would save \$60.3 million. The Army agreed with the recommendations and the savings.

During FY 1992, the USAAA issued 142 formal audit reports, 128 memorandum reports, and 7 advisory reports resulting in potential monetary benefits of approximately \$2.4 billion (*Table 8*).

TABLE 8—USAAA REPORTS BY FUNCTIONAL AREA AND POTENTIAL BENEFIT, FY 1992

<i>Functional Area</i>	<i>Potential Monetary Benefits</i>
Research and Development	257,640,000
Major Systems Acquisition	514,199,000
Procurement—Inventory Control Activities	1,200,000
Procurement—Research and Development	8,000,000
Procurement—Other	10,728,742
Contract Administration	2,800,000
Forces Management	20,200,000
	<i>Continued</i>

<i>Functional Area</i>	<i>Potential Monetary Benefits</i>
Rebuild and Overhaul of Equipment	58,281,370
Supply Operations—Wholesale	101,267,621
Supply Operations—Retail	29,843,175
Military Personnel Management	272,600,000
Real and Installed Property	517,827,500
Construction	40,100,000
Information Technology	3,729,134
Intelligence and Security	43,945,935
Transportation	154,578,340
Military Pay and Benefits	611,000
Program and Budget	90,088,737
Other Comptroller Functions	181,427,500
Support Services	126,567,432
Nonappropriated Fund Activities	288,160
Security Assistance Program	1,496,985
Health Care	2,512,464
Total	2,439,933,095

Management and Accountability of Army Materiel

Army Regulation 735-5, *Policies and Procedures for Property Accountability*, guided the Army's accounting of materiel from the time of acquisition until ultimate consumption or disposal. Past audits found that property management and accountability suffered from inaccurate and incomplete property accounting records, a failure to conduct required physical inventories, and inadequate investigation into discrepancies. A General Accounting Office (GAO) report pointed out several cases where accountable records did not agree with unit inventories of tanks, trucks, and weapons and other cases where units improperly dropped a number of sensitive items from accountable records. Reconstitution from Operation DESERT STORM and turbulence from reshaping initiatives exacerbated the problems with property accountability.

The Army moved to emphasize proper management of materiel at all command levels. The Army leadership directed commanders to use the Command Inspection Program as described in AR 1-201 for the management and accountability of Army materiel. It also ordered the Logistics Evaluation Agency to establish a quantitative baseline for selected

management indicators, including inventory adjustment reports, inventory performance and accuracy, continuing balance system expanded reviews, receipt processing efficiency, special interest items observations, and reports of survey made during Command Logistics Review Team (CLRT) and CLRT-

Expanded inspections. Commanders were to use the command supply discipline program to improve property management and accountability.

Management and Information Systems

The magnitude and complexity of Army operations required an aggressive, imaginative program for information management. The Army found several ways to improve the productivity and efficiency of its automation technology, which was becoming increasingly essential to its operations. During the fiscal year, the Army reviewed its existing system organization and processes and revised them where appropriate. The Army also planned and implemented new programs.

Primarily, the Army sought to standardize and modernize business applications and to migrate to the Open Systems Environment (OSE). The Sustaining Base Information Services (SBIS) Program was the centerpiece of this strategy. This program will move the Army's base information management functions to OSE, a step that was expected to reduce sustainment costs, improve compatibility and standardization, and increase vendor competition. SBIS issued a Request for Proposals (RFP), and the Army expected to award a contract in the middle of FY 1993.

Although the Army took steps during FY 1992 to enable automated identification of transactions, other priorities took precedence. Army programmers did improve their manual internal control processes to provide audit trails and to ensure a proper separation of functions. Nevertheless, at year's end most installations and MACOMs still had not enabled their automated systems' programs to recognize multiyear designations given by the Supplemental Appropriation Act. Even though their systems computed ending balances, the transactions did not contain the level of detail required to produce the financial statements. The planners recomputed and replaced the values for the budget execution system.

During the fiscal year, the U.S. Army Decision Systems Management Agency developed the Base Operations Integrated Database (BASOPS IDB). This system will support base operations, base realignment and closure, and installation management activities. By the close of FY 1992, data were available only on installations in the continental United States.

The Army also began fielding Installation Support Modules (ISM) to provide standardized and efficient software for the automation of day-to-day business operations. Installations will use ISMs to perform daily functions, reduce redundant data entries, print necessary paperwork, and speed the processing of soldiers at installations. The sharing of common information across functional areas is a key aspect of this system.

During FY 1992, the Army also implemented the Integrated Computer Aided Software Engineering (I-CASE), an integrated set of

software engineering and development tools and repository for developing software. The DOD-wide I-CASE contract took advantage of new and emerging technologies to develop automated information systems. Developers planned to use I-CASE to automate strategic and sustaining base operations. In July, DOD approved cost sharing for eleven pilot projects of I-CASE support. Planners expected these projects to provide the media for specific requirements in AMC, TRADOC, and USAISC as well as to build the foundation for expanding the employment of I-CASE methods in future projects.

The Army also developed the Personnel Electronic Records Management System (PERMS) to replace the paper and

microfiche military personnel record-keeping systems with optical digital imagery technology. Personnel officers planned to convert all official military personnel files to the PERMS at the Army Personnel Center (ARPERCEN), the Enlisted Records and Evaluation Center (EREC), Personnel Command (PERSCOM), and the National Guard Personnel Center (GuardPERCEN). After delivery by the PERMS contractor, the ARPERCEN system was undergoing technical testing by an independent evaluator at the end of the fiscal year. The Army expected to finish technical and operational testing in early FY 1993, after which the program would seek approval from the Major Automated Information System Review Council for final deployment.

The Total Army Personnel Management Information System supported all officer career and distribution managers in the Headquarters, Department of the Army, as well as worldwide G-1 activities, with officer management data. During FY 1992, engineers redesigned the system from a sequential "flat file" environment to a relational database system. Each module would use state-of-the-art technology to provide Total Army support, with standard names and values for all data elements. Program designers also automated the MILPC25 report, submitted by the field in hard copy for over twenty years, to furnish an on-line updated capability for the efficient management of assignments for Army colonels worldwide.

During FY 1992, the Army moved to upgrade the Army Manpower Cost System, a family of manpower life-cycle cost models that the Army had established to provide manpower costs for Independent Cost Estimates, Baseline Cost Estimates, and tradeoffs of alternative weapon systems designs. The system supported the availability and management of Operating and Support Costs, Army Force Cost System, and Enlisted Personnel Inventory, Cost, and Compensation Model. Close to 100 users of the system could modify databases, create personnel profiles to address almost any personnel analysis, and include or exclude selected cost elements. The Army hoped to complete its upgrade of the system in FY 1993 so that it could be used on personal computers and local area networks.

The Standard Installation/Division Personnel System (SIDPERS-3), under development during the fiscal year, was designed to support the active Army in peacetime and the Total Army during mobilization, wartime, and demobilization. In October 1991, DOD approved full-scale development of the SIDPERS-3 software. The program then moved into the design, code, and informal test phase, with researchers incorporating changes into the system to reflect lessons learned in Southwest Asia. Managers expanded the program to include hardware and training for all reserve components and also established a laboratory for initial functional testing. In August, the Army decided to use a single Commercial Off-the-Shelf (COTS) platform for both sustaining and tactical environments. Army planners expected to field the system in the third quarter of FY 1994.

After the Enlisted Distribution and Assignment System (EDAS), version 4.0, went into operation on 1 October 1991, programmers devoted FY 1992 to improvements. Some changes eased the identification of soldiers electing to leave the Army under one of the voluntary separation programs. The Army also established an EDAS modeling region in St. Louis so system managers could test changes on a "look alike" computer region before incorporating them into production operations. During FY 1992, EDAS processed over 5 million transactions while transmitting assignment information via AUTODIN to sixty-seven personnel processing activities worldwide. By the end of the period, assignment managers had accepted close to 50 percent of EDAS-generated assignment nominations.

The Army also prepared for the fielding of the Reserve Component Automation System (RCAS), a comprehensive office automation network to manage ARNG and USAR units. RCAS utilized COTS computers, office automation software, secure Wide Area Network telecommunications, specialized application software, and a fully relational database for each reserve component unit in the United States. The Army plans to use RCAS to mobilize these units as well as to perform day-to-day administrative functions at the units' home stations. During August and September, twenty-one units in California; Atlanta, Georgia; and Washington, D.C., conducted a Limited User Test with COTS computer hardware and standard office automation software that were linked via electronic mail. At the close of the fiscal year, the Army worked on correcting minor problems encountered during the test prior to fielding RCAS in FY 1993. By its completion in FY 1998, RCAS was expected to connect over 9,800 units at 4,700 locations with their headquarters and mobilization stations.

Automation helped other Army functions as well. After DESERT STORM, the Army leadership approved the development of an automated casualty information system to replace the manual operations performed

by PERSCOM and Casualty and Mortuary Affairs Operation Center personnel. The Army directed the Mortuary Affairs and Casualty Support Division in PERSCOM to develop programs for the disposition of remains and personal effects, line of duty investigations, mortuary affairs, memorialization, and administration. During the fiscal year, mortuary affairs personnel worked closely with programmers from a contracting firm to design the Army Casualty Information Processing System to track remains, coordinate disposition instructions, and communicate with casualty area commands, personal effects depots, and port mortuary and theater of operations units. The system included automated administrative systems for line of duty investigations, special interest correspondence and inquiries, and claims for funeral expense reimbursement. It was ready for testing at the end of the fiscal year, and the Army set an implementation goal of FY 1993.

The Army Food Management Information System provided automated installation-level food service and troop issue subsistence processes. The Army developed the system in response to a congressional requirement to eliminate substantial annual losses in worldwide food service. During FY 1992, the Army instituted the system at thirteen sites, with a goal of completing worldwide fielding of the system by FY 1995.

To improve the management of organizational and individual equipment, the Office of the Deputy Chief of Staff for Logistics increasingly turned to automation. Several major commands and separate activities used automated systems, but most central issue facilities still employed manual ones. To solve this problem, the Army began to develop a standard automated system. In August 1992, logisticians met at the Systems Development Center in Atlanta to review proposed changes to the baseline system and to finalize its specifications. The Configuration Control Board took these specifications and set priorities for those capabilities that it would field either with the baseline system or later with the ensuing system change packages. The board planned to begin fielding prototypes during the second quarter of FY 1993. In addition, logisticians included selected items of organizational and individual equipment in the Army's Total Asset Visibility (TAV) System, which would begin its prototype testing in December 1992.

To develop a more efficient means to handle soldier records, Army records managers also turned to automation. During the fiscal year, the Records Maintenance Division, PERSCOM, processed 165,366 soldier separation records for shipment to ARPERCEN, the largest number handled since FY 1979. On 29 September 1992, the division awarded a three-year contract to MSTC Incorporated to transfer the active duty enlisted Official Military Personnel File, both paper and microfiche, onto optical disk. The division would then load the disk into the Enlisted Records and

Evaluation Center's Personnel Electronic Records Maintenance System/Optical Digital Imagery System, scheduled for installation in April 1993. Planners scheduled the conversion to continue through September 1995.

Significant Records and Publications Management Developments

The Army made other improvements in its record-keeping process. During FY 1992, Congressman G. V "Sonny" Montgomery (D-Mississippi) received complaints that it often took six months for the Veterans Administration to receive veterans' health records from the Army, thus delaying the adjudication of Veterans Administration compensation claims. He asked DOD to review the current procedures and establish new ones to speed the transfer of these records. The resulting 7 September 1992 Memorandum of Understanding between the Army and the Department of Veterans Affairs (VA) significantly changed procedures for the disposition of the health records of separating soldiers. Effective 16 October 1992, the Army would send all health records of these soldiers directly to the VA, bypassing EREC, PERSCOM, and ARPERCEN. Records managers would transfer the records of soldiers who filed a VA compensation claim to the VA regional office that supported the soldier's transition center. The Army would send the records of those

soldiers not filing claims to a central VA repository in St. Louis, Missouri. The Army expected that the new adjudication system would handle compensation claims months faster than was the case under the old system.

The Records Service Division in PERSCOM also implemented programs to improve the NCO-ER (Noncommissioned Officer Evaluation Report) processing system. The division upgraded the Interactive Voice Response System to allow soldiers to request that a copy of their Official Military Personnel File be mailed to their unit. In addition, the division mailed over 280,000 Trans-O-Grams to NCOs notifying them of errors in their NCO-ERs that would prevent the evaluation reports from being processed. The Trans-O-Grams also informed an NCO if an NCO-ER had not been posted to his or her personnel file within the preceeding fifteen months. The division also completed an automated link with Personnel Service Companies through e-mail and PROFS that allowed the NCO-ER Section to communicate daily with the companies and reduce correction time from thirty days to twenty-four hours.

Improved manuals helped make critical cost information available to Army users. During FY 1992, the U.S. Army Cost and Economic Analysis Center published an automated cost factor handbook for Army-wide distribution. The handbook provided common use data applicable to the field and the Army Staff. Publication of a condensed version of the information

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on a 3.5-inch computer disk facilitated distribution and eliminated the need for paper publishing with its inherent costliness and bulk. The center planned initially to update the handbook annually and then make it available over an automated cost bulletin board that would ensure that the updated factors were always available to the user. In August 1992, the center also published and distributed the Department of the Army Cost Analysis and Economic Analysis Manuals, which provided procedures for developing accurate cost and economic analyses of Army programs, materiel systems, facility acquisitions, automated information systems, forces, and activities. These manuals helped the cost analyst provide better customer service and facilitated decision making.

During FY 1992, the Army worked on organizing, operating, and managing its multitudinous activities in the most effective and efficient manner possible. From reorganizations under DMRDs, which consolidated functions at the DOD level, to internal consolidation and reorganization, the Army diligently worked to improve its operations while simultaneously downsizing and cutting back on modernization of weapon systems. Many of these decisions, especially those in the BRAC arena, were unpopular in some quarters, but generally they improved the operation of the Army. While most observers noted the greatly increased reliance upon automation for training, few noticed the systems that military personnel used daily and in the planning stages to run tomorrow's Army. Even in the midst of a turbulent period, the Army continued to work on providing the best possible service to its troops, its government, and its country.

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Personnel

Active duty and civilian personnel bore the brunt of the cuts in the Army during FY 1992. To encourage voluntary departures from the service and thereby reduce the number of involuntary losses, the Army turned to several programs, notably the Voluntary Early Transition (VET), Voluntary Separation Incentive (VSI), and Special Separation Benefit (SSB). In the end, these programs were so successful that the Army actually encountered shortages of personnel in several specialties.

Reductions in Active Military Strength

With the end of the Cold War, the Army contained more soldiers than were authorized, as reductions in force structure exceeded losses from normal retirements and completed tours of service. The Chief of Staff and the Secretary of the Army accordingly approved a plan for fiscal years 1990-95 to reduce Army end strength primarily through voluntary separations and secondarily through involuntary measures. During FY 1992, the Army used a number of programs to reshape the Army, including Base Realignment and Closure (BRAC), Retention Control Point (RCP) changes, Conventional Forces in Europe (CFE) mandated reductions, and Enhancement of CONUS Contingency Corps (EC3). The most important programs, however, were the VET, VSI, and SSB. Approximately 64,000 soldiers took advantage of these three programs during the fiscal year.

Under the VET program, soldiers who had completed three or more years of service could request voluntary separation without regard to expiration of term of service. Soldiers who possessed critical skills or served in Cohesion, Operational Readiness, and Training (COHORT) units were ineligible. The first lieutenant colonel in the soldier's chain of command approved or turned down the application, and any recommendations for disapproval had to go to PERSCOM. The program was intended to run from 7 October 1991 through 30 March 1992.

The National Defense Authorization Act, adopted in December 1991, provided for programs to assist in maximizing voluntary separations. In January 1992, the Army added the VSI, SSB, and the Excellence in

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Retention Program (ERP) to the VET. The VSI offered an annual annuity payment equal to 2.5 percent of the soldier's base pay multiplied by the number of years of active service. A soldier would receive his VSI payment for twice the number of years he had active service. The SSB provided a lump sum payment equal to 15 percent of the soldier's annual basic pay times the number of years of the soldier's active service. To be eligible for the VSI and SSB, which the Army lumped into a common program, soldiers must have completed at least six years of active federal service as of 5 December 1991 and have served at least five years of continuous active duty immediately prior to the date of separation. The VSI/SSB stressed maximum approvals while accepting the inherent risk of a personnel shortfall, especially in the ranks of staff sergeant and sergeant. To maximize voluntary losses and reduce involuntary separations, the Secretary of the Army extended the VSI/SSB application window from 29 February to 1 May 1992.

The results of these programs exceeded the Army's expectations. Approximately 100,000 soldiers left the Army during the fiscal year, with more than 52,000 of them departing under the VSI/SSB and VET programs. These actions left the Army's end strength closer to 610,000 than the anticipated 640,000. Personnel readiness and Authorized Level of Organization (ALO) decreased significantly during the summer, when the bulk of the soldiers separated from the Army under these programs. Because the Army could not match the unexpectedly rapid reduction in personnel with a corresponding decrease in authorized positions, it faced a shortage of soldiers to meet requirements. MOS shortages were expected to continue in future fiscal years.

To ensure readiness, the Chief of Staff decided to classify Personnel Planning Group (PPG) 1 and 2 units—the Contingency Force and the 2d Infantry Division, and the Echelon Above Division Support Package 1—as having priority on resources. All other units would share the remaining resources. The Army leadership expected that personnel readiness would level out through the first quarter of FY 1993 as the remainder of the "early out" losses departed and the training base began to graduate soldiers from Advanced Individual Training (AIT). The Chief of Staff's guidance should help priority units attain the ALO. However, the ALO for the Army's remaining units was expected to decrease during the next fiscal year unless the Army's force structure was reduced to a level equal to its operating strength.

In sum, active duty end strength declined during the year from 710,233 to 610,450, a drop of about 14 percent. Active duty end strength was scheduled to fall to 520,000 by FY 1996, a cumulative reduction of more than 26 percent for the 1992-96 period. Civilian manpower fell during FY 1992 from 352,254 to 327,515, a reduction of 7 percent. (*Table 9* shows the actual numbers of soldiers and civilians.)

TABLE 9—FY 1992 TOTAL ARMY STRENGTH

	<i>Beginning FY 92</i>	<i>End FY 92</i>
Military		
Enlisted	602,548	511,335
Cadet	4,341	4,270
Officer	103,344	94,845
Total	710,233	610,450
Civilian	352,254	327,515
Total	1,062,487	937,965

Enlisted Personnel

Recruiting

The success of the Army's voluntary separation program enabled the service to increase the number of new soldiers. In March, the Army increased its annual accessions from 65,000 to 75,000. During the fourth quarter of the fiscal year, the DCSPER requested that the U.S. Recruiting Command increase enlistments to 77,500.

Whether the Army could maintain the high quality of enlistees while increasing the number of them remained to be seen. During the 1980s and 1990s, the Army had continually improved the quality of its enlisted strength. Indeed, the caliber of recruits entering the service during FY 1992 was the highest in the history of the all-volunteer Army. Of the 77,783 enlistees, the 76,095 accessions with no prior service were all high school graduates, and almost 78 percent of these scored in the upper half of the Armed Forces Qualification Test (AFQT). Less than half a percent were in the lowest category (CAT IV) allowed for enlistment. During FY 1992 an additional 22,176 individuals committed to enter the Army during the following fiscal year. Almost 96 percent of this group were high school graduates, with 73.3 percent testing in the upper half of the AFQT and only 4.2 percent in Category IV

Reenlistment and Retention

The requirement to reshape the force in the 1990s led to changes in the Total Army Retention Program. During FY 1992, the Army required commanders to initiate "bars to reenlistment proceedings" or separation actions for soldiers who did not make satisfactory progress in the Weight Control Program, failed two consecutive Physical Fitness Tests, or

were removed for cause from any Noncommissioned Officer Education System course. The Army changed the intervals between bars to reenlistment

reviews from every six months to every three months and kept the requirement to initiate a separation action if a second review did not remove the bar. The Army designed these changes, which it implemented in FY 1992, to protect quality soldiers, minimize turbulence, maintain readiness, and ensure that the Army could meet its mandated end strength.

The Army shortened the normal window for reenlistment eligibility to a period between eight months and three months prior to the end of the current enlistment. The former window had started eleven months prior to the end of the current enlistment and ended when a soldier was one day less than three months from the end of that enlistment. Only the Commander of PERSCOM could approve reenlistment after this period. The Army hoped that the new window would increase readiness through the better filling of unit vacancies.

The Army also made a number of changes in its policy on Retention Control Points (RCP). The RCP represents the total number of years of service that a soldier may remain in the Army unless he or she is promoted to the next higher grade. The new control points shortened the period a soldier could remain in the Army at the same rank. Table 10 shows the change in Retention Control Points for staff sergeant (SSG [P]), sergeant, first class (SFC), SFC (P), first sergeant, and master sergeant, effective 1 February 1992.

TABLE 10—CHANGE IN RETENTION CONTROL POINTS

<i>Rank</i>	<i>Old RCP</i>	<i>New RCP</i>
SSG (P)	24*	22
SFC	24	22
SFC (P)	27	24
1SG/MSG	27	24

* Numbers equal total years of active federal service.

The Army reduced the RCP for soldiers in the rank of specialist promotable from thirteen years of total active federal service to eight years, effective 1 October 1992. The new RCP policy required those specialists affected by the change to leave the Army no later than 30 September 1992, although it did allow some prior-service soldiers to reenter the Army for a period that, when added to previous service, exceeded the new RCP. Units had to report these prior-service soldiers to PERSCOM, which could authorize retention beyond the new RCP or order separation either on 30 September 1992 or at the new RCP To help fill critically short military occupational specialties (MOS), the Army made an exception to the RCP program by allowing soldiers to attend training and extend their enlist-

ments beyond the new RCP if they received a promotion to the rank of sergeant within thirty days of graduation. Those who did not complete training or receive a promotion would depart immediately or at the normal RCP, if it came later.

PERSCOM based reenlistment options upon a soldier's Primary Military Occupational Specialty (PMOS). The Army offered almost all reenlistment options except retraining to soldiers in PMOSs that were understrength or at full strength, but it limited those in overstrength PMOSs to the Army Service School Reenlistment Option or the Regular Army Reenlistment Option. Soldiers in overstrength MOSs designated for retention control could reenlist only with the consent of PERSCOM, which could approve a soldier's reenlistment in the current PMOS, order retraining, or deny his request. A key factor in PERSCOM's decision was the battalion commander's recommendation. Even if a soldier's

performance did not justify a bar to reenlistment, commanders could recommend that PERSCOM deny a soldier's request for reenlistment, although they had to justify all recommendations for denial. When Phase I of the Excellence in Retention Program ended in July 1992, PERSCOM had approved 14,207 (91 percent) soldiers for retention in their current MOS, authorized 441 (3 percent) soldiers for retraining, and denied retention to 967 (6 percent). Denial and retraining percentages were low because of the success of the FY 1992 voluntary transition programs. In the second phase of the Excellence in Retention Program, PERSCOM concentrated on reclassifying soldiers into targeted understrength MOSs.

In the end, the Army reached 96.5 percent of its initial term reenlistment objective of 25,321 for FY 1992, as 24,442 soldiers signed up for another term. The Army surpassed its mid-career active component objective of 27,052 by 38 soldiers and exceeded the reserve component objective (18,000) by 50 percent (27,361).

Enlisted Distribution

With the end of the Cold War and the reduction of forces in Europe, the Army revised its policy on enlisted distribution. In the past, the Army had given priority on available personnel to forward-deployed overseas units. The Gulf War, however, showed the need for a large, mobile, stateside-based force that could respond quickly to crises anywhere in the world. This force would obviously require a high degree of personnel readiness. The new distribution policy required the Army to fill the 82d Airborne Division at 102-100 percent of authorization. The rest of the contingency force, as well as the 2d Infantry Division, stationed in Korea, would maintain at 100-98 percent of authorization. Noncontingency forces—second echelon deploying units with time to mobilize—would draw on the remaining soldiers and absorb any personnel shortages.

The many programs to reduce enlisted end strength placed a strain on the personnel replacement system, and consequently on enlisted distribution. As a result of those programs, normal rules for the processing of requisitions were effectively suspended, and the number of authorized and actual enlisted soldiers in all MACOMs fluctuated. Unable to project accurately strength figures one year into the future, personnel managers struggled to maintain readiness in priority units with understrength MOSs. The Army expected that continuous unit moves and renewed "early out" programs in FY 1993 would keep Career Management Field (CMF) managers juggling the enlisted force. Truly stabilized tours would not become a reality until FY 1994 or beyond.

Significant Changes in Career Management Fields and Military Occupational Specialties

As the Army reshaped, its soldiers would need to become "generalists" rather than "specialists," possessing proficiency in more skills than in the past. A shrinking budget, reduced force structure, and declining personnel strength drove this change. Despite the obvious challenges, the Army's leadership believed that the quality and intelligence of soldiers would make the emphasis on versatility possible.

Seeking the best use of available personnel, the Army consolidated several military occupational specialties. To accommodate the deployment of mobile subscriber equipment, the Signal Corps formed three new MOSs and eliminated nine. The introduction of common sensor systems and pending inactivation of the OV-1D Mohawk led to the consolidation of two electronic warfare maintenance MOSs into a single military intelligence aviation maintenance specialty, effective in FY 1994. Also in the aviation field, the integration of systems on the AH-64 Apache caused the Army to combine the armament/missile systems repair and electrician specialties in a new MOS, and PERSCOM initiated the Aviation Apprentice Mechanic Program to test the feasibility of training Skill Level (SL) 1 aviation mechanics as generic mechanics capable of repairing all Army aircraft. President Bush's reduction of the number of nuclear weapons in September 1991 caused the Army to reclassify approximately 800 soldiers in two nuclear MOSs and to implement plans to retrain or separate from the service about 1,500 Lance missile crewmen. In December 1991, the DCSPER approved the Chief of Ordnance's proposal to consolidate the MOSs for depot support and general support armament repair. The Quartermaster School, while changing Army regulations to provide greater job diversity and promotion opportunities, consolidated four MOSs into a single automated logistics specialty.

Other MOSs endured either reductions or redistributions in authorized strength, although actual cuts often proved to be less than anti-

pated. Because of changing strategic intelligence requirements, the Signal Corps expected authorizations for strategic systems repairers to decline by 28 percent during the fiscal year, but in the end a late decision regarding the closure of the Berlin field station minimized the actual reduction. At the same time, the Army modified its plans to reduce the ground surveillance systems operator MOS to 225 spaces in the wake of ongoing demand pending the introduction of the Unmanned Aerial Vehicle. PERSCOM's Military Intelligence Branch did make major reductions in several language skill specialties, reclassifying many into the counterintelligence MOS. The Army also reclassified eighty-one personnel authorizations in the 96th Civil Affairs Battalion within CMF 18 (Special Operations). In addition, the Director of the Enlisted Personnel Management Division of PERSCOM took steps to realign proportionally by MOS authorizations within the U.S. Army Recruiting Command.

Several other MOSs were affected by the downsizing and the Army's various separation programs. The large reductions in some ordnance mechanical maintenance MOSs as a result of those programs caused PERSCOM to increase its introductory training in several MOSs that, in turn, created an instructor shortage at several bases. High separation rates from VET and VSI programs also created shortages in critical skills within the military police MOS, a deficiency that will last for years. As a result of the CFE force reductions, planners told U.S. Army Intelligence Command to remove and redistribute approximately 800 USAREUR spaces by the end of 1993. INSCOM interpreted this change to be cuts and, as a result, significantly reduced training slots and accessions in several MOSs for the FY 1993 programs. The success of the Army's "early out" programs also contributed to a temporary shortage of CMF 11 (Infantry) in several MOSs, leading PERSCOM and the Enlisted Infantry Branch to obtain an expansion of the training program at the Army Infantry Training Center, an increase in the promotion rate to fill vacated NCO positions, and approval for Selective Reenlistment Bonuses (SRBs) for MOSs most affected by early transition programs. The Army's efforts to downsize, as well as delays in the introduction of the Bradley Fighting Vehicle and the AVENGER, also created shortages in several Air Defense Artillery (ADA) MOSs, which PERSCOM and the Enlisted ADA Branch sought to remedy through SRBs and an expansion of the training requirements at the ADA Center.

The Army reviewed its training requirements as part of the effort to obtain more parachutists. In the late 1980s, the Army had instituted a series of programs to reveal by MOS the requirements for parachutist accession and training for SL 1 soldiers in the active Army. The model listed Army parachutists by age and grade. The shortfall between this inven-

tory and the Army's goals for parachutists became the annual requirement for the MOS. PERSCOM reviewed each requirement and sent the results to the Enlisted Personnel Management Directorate for final adjustment. For FY 1992, the model established a goal of 150 percent of airborne authorizations for the grades of sergeant to sergeant major in all MOSs except for those in CMF 18 and two MOSs.

Combat operations in Southwest Asia provided the Army with an unprecedented opportunity to capture data on task performance and lessons learned at the MOS and grade level in order to shape future job classification and training requirements. In March 1991, USAPIC—now the Deputy Chief of Staff for Personnel Integration, PERSCOM—had asked various personnel-related agencies to provide occupational identifiers critical to the success of Operations DESERT SHIELD and DESERT STORM. The proponents recommended the survey of 104 identifiers, but Army Headquarters approved funding for the analysis of 35 identifiers by the MANDEX Corporation and funding for PERSCOM to study 40 additional identifiers. As of 30 September 1992, PERSCOM had developed and distributed fifty questionnaires for the survey. The Army hoped that the returned questionnaires would relate task performance to mission accomplishment. The analysis would begin during the first quarter of FY 1993.

Reduction in Force

During FY 1992, the Army sought to reduce its enlisted strength as part of its drive toward an FY 1995 end strength of 435,000. Between 1 October 1991 and 30 April 1992, the VET program reduced the enlisted force by 26,583 soldiers. *Table 11* provides additional data on the VET.

TABLE 11—VET REDUCTIONS BY GRADE, SEX, RACE, AND GEOGRAPHICAL CONCENTRATION

<i>Category</i>	<i>Total</i>	<i>Percent</i>
Original ETS > FY 1992	17,656	66.42
Primary Grades		
Rank of SGT	4,659	17.53
Rank of SPC	19,763	74.34
Sex		
Male	24,576	92.45
Female	2,007	7.55
Race		
Caucasian	20,182	75.92
Black	4,543	17.09
Asian	280	1.05
American Indian	130	0.49
Other	1,496	5.63

Continued

<i>Largest Concentrations</i>	
Fort Hood, TX	2,571
USAREUR	2,370
Fort Bragg, NC	2,175
Fort Campbell, KY	1,968
Fort Carson, CO	1,565
Fort Riley, KS	1,534
USARPAC	1,434
Fort Lewis, WA	1,280
Fort Polk, LA	1,074

The VET encountered several problems. In its goal of encouraging early departures, it was too successful, as the number of applications far exceeded expectations. To make matters worse, PERSCOM was unaware of the large number of soldiers separating under this program during the first three months because field commanders did not report many of the approved applications. This glitch resulted in shortages in enlisted end strength and had an adverse impact on readiness in several specialties, forcing the Army to raise recruiting targets and attempt to increase training slots at a time when TRADOC also faced strength reductions.

After determining that thousands more soldiers than expected had opted for the program, PERSCOM suspended it as of 17 January. The agency reinstated the program on 1 February 1992 as VET Phase II, which limited eligibility to soldiers in twenty high-density, significantly overstrength specialties and required all applications to go to PERSCOM for approval. As was the case with Phase I, the Phase II program worked under specific restrictions concerning soldiers awaiting involuntary separation, soldiers in PPG 1 or PPG 2, and soldiers on short tours. The application period lasted to

30 April.

While the VSI/SSB and ERP programs were highly successful in getting soldiers to leave voluntarily, resulting in the release of 23,209 enlisted soldiers under the VSI/SSB and 650 under the ERP, they encountered several problems. Applications from eligible NCOs above the grade of sergeant with nine or more years of active service exceeded the drawdown targets. Officials approved all applications that were submitted on time, which amounted to more than 10,000. This step resulted in major short-term shortages in numerous specialties, a temporary degradation of readiness, and a need to increase the rate of promotions to make up the shortfalls. As was the case with the VET, significant underreporting of locally approved applications exacerbated the problem. Field staffs erroneously approved applications that they should have forwarded to PERSCOM and incorrectly approved some applications from soldiers who did not meet the statutory requirements. Soldiers who did not meet the statutory

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requirements received from PERSCOM the option of reassignment or separation without the VSI or SSB payment.

The late receipt of several applications also caused problems. In many cases, the soldier applied within prescribed time frames, but the local command did not process it in a timely manner. PERSCOM returned most late applications without further action, because the Army had far exceeded its drawdown targets. Many soldiers expressed dissatisfaction at thus being ineligible for the early separation incentives by writing to Congress. At the height of the problem, the Army received as many as 50 or 60 congressional/executive letters per week. In the end, the Army revised the VSI/SSB programs for FY 1993 to require the forwarding of all applications to PERSCOM for approval.

In October 1991, the DCSPER approved an Enlisted Selective Early Release Board (SERB) to reduce the active duty strength of command sergeants major and sergeants major (CSM/SGM) by no more than 30 percent in order to bring the grade into alignment with a smaller Army. The first CSM/SGM SERB convened the following January in conjunction with the CSM/SGM Promotion Selection Board. Prior to convening the SERB, the Army allowed Regular Army CSMs/SGMs with a date of rank of 31 January 1991 or earlier and a Basic Active Service Date of 31 August 1963 to 31 August 1966 to submit voluntary retirements with an effective date of no later than 1 February 1993. A total of 176 CSMs/SGMs voluntarily retired rather than undergo consideration by the SERB. After the SERB made its choices, those selected by the SERB were notified by the first general officer in their chain of command and given the option to retire. Under the plan, PERSCOM would involuntarily separate on 1 September 1992 any CSMs/SGMs who did not opt to retire. In the end, all of the CSMs/SGMs selected by the SERB opted to retire in lieu of involuntary separation. Also, media publicity, coupled with the prospect of a SERB in FY 1993, caused unprecedented numbers of CSMs/SGMs to apply for voluntary retirement during FY 1992.

The drawdown significantly affected the numbers of CSMs/SGMs selected for promotion. PERSCOM selected 161 soldiers for CSM and 344 for SGM for the fiscal year—a considerably lower figure than the Army had chosen in recent years. By June 1992, it was obvious that the number of soldiers selected for appointment or promotion to CSM/SGM would not meet the needs of the Army until the release of the FY 1993 CSM/SGM Promotion Selection Board list. In June 1992, ODCSPER decided, based upon projected strength figures, to reschedule the FY 1993 CSM/SGM Promotion Selection Board for September 1992 rather than January 1993. ODCSPER provided the board with a promotions goal that was, by virtue of its size, indicative of the extent to which retirements had reduced the projected strength of the CSM/SGM grades.

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Army planners also discovered that they lacked a valid loss rate to use for future projections of losses in the SGM Select Objective Review. Recent historical loss rates had been distorted by the stop-loss program employed during Operations DESERT SHIELD/DESERT STORM, the announcement and conduct of the FY 1992 SERB, and the management of the drawdown. PERSCOM's Force Plans Branch under its Deputy Chief of Staff for Plans and Analysis divided currently known losses into normal retirements and retirements in lieu of SERB consideration and used these figures to modify historical loss rates. The branch used the results to provide a valid loss rate in strength projections through FY

1994 for SGMs. Analysis of projected strength compared to future authorizations concluded that an FY 1993 SERB for SGMs would not be necessary.

Women in the Army

As of the end of July 1992, the active Army contained 75,711 women, about 11.9 percent of the force, whereas the Army National Guard included 31,558, about 7.4 percent of its composition, and the Army Reserve had 57,449, about 20.8 percent of that force. More than 90 percent of all Army career fields and 61 percent of all Army positions were open to women. Army policy continued to exclude women from those battalions or smaller units whose mission was to engage the enemy in direct combat. This policy effectively closed infantry, armor, cannon artillery, short-range air defense, combat engineers, and combat aviation to women. The Army also excluded female soldiers from positions and units that routinely operated on the battlefield alongside direct combat units.

Equal Opportunity and Minority Representation

Minorities continued to be a substantial part of the Total Army. Minority representation remained at about 38 percent of the total active force. African Americans, the largest minority group, constituted approximately 29 percent of the end strength.

The Army continued its commitment to equal opportunity. In late 1991, the Secretary of the Army sent independent human resource consultants to Europe to conduct a "climate assessment" and to investigate allegations of racial inequality made by the chairman of the Civil Rights Commission. In 1992, the Secretary instituted the same type of assessment at stateside posts. Based on these investigations and data from the Army's equal opportunity program, the DCSPER's office developed a Sexual Harassment/Equal Opportunity Action Plan to address apparent weaknesses in the equal opportunity program.

Officer Personnel

Officer Strength and Grade Distribution

The overall officer end strength for FY 1992 was 94,845, or 39 below the Budgeted End Strength (BES). Officer strength dropped by 7,396 during the year. The reduction came from early retirements, officers selected by the RIF board, officers electing the VSI or SSB programs, officers departing through the Voluntary Early Release/Retirement Program (VERRP), officers leaving after not being selected by the lieutenant retention board, and natural attrition (Table 12).

TABLE 12—ACTIVE DUTY COMMISSIONED OFFICER STRENGTH AND GRADE DISTRIBUTION, FY 1992

<i>Rank</i>	<i>Beginning of FY 1992</i>	<i>End of FY 1992</i>
GEN	11	11
LTG	46	41
MG	136	128
BG	195	177
COL	4,658	4,360
LTC	10,616	9,812
MAJ	17,953	16,379
CPT	32,487	30,083
1LT	13,254	11,756
2LT	9,309	8,519

Total	88,665	81,269
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Officer Accessions by Source

The FY 1991 National Defense Authorization Act directed the Army to reduce officer accessions to a level that would support a force of 520,000 personnel. In all, the Army commissioned 3,620 of an authorized 3,700 officers. Of these, 925 came from the United States Military Academy, 299 from Officer Candidate School, and 2,396 from ROTC.

Officer Retirements and Departures

During FY 1992, a total of 6,873 officers received approval for retirement, a 48 percent increase from FY 1991. Under the VSI, the Army approved 2,035 officers for release from active duty. Another 2,824 retirements came through the SSB. The Army continued from FY 1991 the VERRP, which approved and processed 1,334 officers for release from active duty. SERBS selected 1,644 officers for release. Finally, under congressional mandate, the Army conducted several Reduction in Force (RIF)

boards, through which it selected and processed 245 company and field grade officers for release.

The Army wanted no officer who met Army standards to face involuntary separation as a result of the downsizing without being first offered the opportunity to apply for the VSI/SSB program. The VSI/SSB offered officers various financial incentives for separation. This program also included such benefits as job counseling, transition health care, extended commissary and PX privileges, extended use of family housing and DOD schools, permissive TDY, priority in affiliating with the reserves, transportation entitlement, and one-year storage of household goods.

To encourage officers to leave, the Army also continued from FY 1991 the VERRP. It was available to all officers except certain aviator, Medical Corps, Dental Corps, Army Nurse Corps, Army Medical Specialist Corps, Veterinary Corps, and Medical Service Corps personnel and AMEDD warrant officers. The DCSPER's office processed VERRP applications and kept a close eye on end strength targets for each year group, grade, branch, functional area, and competitive category as well as the needs of the service. During FY 1992, the Army conducted the VERRP in two phases. During the first application period from 1 September to 15 November 1991, the VERRP Board approved 878 of 915 applications. During the second application period, from 17 January to 1 April 1992, the board approved 456 and disapproved 38 applications. All of the officers approved for separation under VERRP had to leave the Army no later than 30 September 1992.

In support of the drawdown, the Secretary of the Army directed the convening of SERBs under the provisions of Title 10, U.S. Code. The FY 1992 SERBs, which met in January 1992, considered all colonels with two years or more time in grade and lieutenant colonels, majors, and captains who had served more than eighteen years as of 1 January 1992; were not on a list of officers recommended for promotion; and did not have an approved voluntary or mandatory retirement date in fiscal years 1992 or 1993. Special Branch SERBs also met during the same month. Officers under consideration by the SERBs received offers for voluntary retirement with effective dates through 31 January 1993. Those who accepted were removed by PERSCOM from consideration, and the Army changed the SERB requirement to meet field grade strength limits for FY 1992. In the end, the SERBs identified 1,654 officers managed by PERSCOM's Officer Personnel Management Directorate and 84 Special Branch officers for early retirement. Flag officers notified each of these 1,738 officers in late March 1992. By the end of FY 1992, 1,515 had retired, and the remainder departed upon becoming eligible for retirement.

During FY 1992, a RIF board also considered captains of year group 1982 and majors of year group 1978 for involuntary separation. The FY 1991 National Defense Authorization Act and Title 10, U.S. Code, authorized

involuntary separation of officers during a RIF or when the Secretary of the Army determined that it was necessary to correct a grade imbalance or a surplus. The Army offered all officers the chance to participate in either the VSI or SSB programs prior to convening the RIF board. It cancelled the captains RIF board after voluntary separations under the VSI/SSB reduced the FY 1992 end strength for captains to the desired level.

The number of majors voluntarily separating under VSI/SSB, however, was too small to cancel the majors board, which convened in March 1992 at PERSCOM Headquarters. The board considered all majors whose ranks dated between 2 July 1989 and 1 March 1991, who had served at least one year of active duty in their current grade as of 1 March 1992, who had less than fifteen years of active federal service as of 30 September 1992, and who were not on a promotion list or eligible within two years for retirement. The board considered 1,873 majors and selected 244 for separation. PERSCOM notified the MACOM commanders, and in June the MACOMs notified those officers selected for involuntary separation. Although the majors were required to leave the Army by 29 September 1992, commanders could extend officers on active duty due to operational or personal hardship reasons for up to 120 days.

To aid assignment officers, PERSCOM's Officer Personnel Management Directorate assessed the results of the FY 1992 major RIF board and the voluntary separation program for majors to determine those officers most likely to be at risk in future RIFs. The study found a direct correlation between retention on active duty and selection for the Command and General Staff College. It concluded that this correlation should apply also to the FY 1993 program.

The Officer Personnel Management Directorate also assessed the impact on the Army of FY 1992 voluntary and involuntary retirement programs for colonels and lieutenant colonels. The study concluded that few reached the traditional 28- and 30-year Mandatory Retirement Dates (MRD) for lieutenant colonel and colonel, respectively, and that, as a consequence, the Army was losing a great deal of its senior experience in these grades.

Officer Management

During the fiscal year, the military services reviewed Title IV, "Joint Officer Management," a part of the Goldwater-Nichols DOD Reorganization Act of 1986, for possible changes in the size and composition of the Joint Duty Assignment List (JDAL). The Army, concerned

about General Colin Powell's return of the FY 1992 Colonels Promotion List because of its failure to achieve statutory promotion objectives, studied the issues in especially great detail. Each service submitted a number of proposals to the JCS and OSD, but no definite action resulted. The large personnel turnover in the JCS and OSD at the end of the fiscal year delayed the review and left the services without direction.

During the fiscal year, the Army also moved to revise its professional development guide for the officer corps, DA Pamphlet 600-3. Substantially unchanged since 1987, the document required a complete revision, because OPMS II could not accommodate the changing demands being placed upon the officer corps and because the existing narrowly defined development paths and qualification criteria did not allow officers much flexibility in deviating from the traditional career development path. The new DA Pam 600-3 established new development paths and qualification levels for all branches and, for the first time, for functional areas. The revision also included the Army Acquisition Corps and Joint Professional Military Education (JPME). The new qualification standards and development paths will not only allow the selection and promotion of officers who have followed nontraditional career paths but also allow an officer sufficient time to acquire the skills necessary for higher levels of responsibility within that discipline. ODCSPER planned to publish the revised DA Pam 600-3 in April 1993.

Commissioning of Army Physician Assistants

The Defense Authorization Act that President Bush signed into law in December 1991 provided for the Physician Assistant (PA) Commissioning Program. The creation of this program was the culmination of about ten years of lobbying by the American Academy of Physician Assistants and the active backing of Lt. Gen. Frank Ledford, the Army's Surgeon General. It authorized the commissioning of Army physician assistants into the Army Medical

Specialist Corps, created a fourth Assistant Chief of the Army Medical Specialist Corps to supervise the Physician Assistant Section, and changed Title 10, U.S. Code, to authorize the program.

The Army moved quickly to implement the program. On 4 February 1992, almost 300 Army PAs received their commissions in concurrent ceremonies around the world. By the close of FY 1992, some 400 Army PAs had received commissions, nearly doubling the size of the Army Medical Specialist Corps, and more of the almost 150 warrant officer PAs remaining on active duty could obtain commissions during the transition period. PERSCOM and the AMEDD Personnel Proponency Directorate at the AMEDD Center and School shared responsibility for managing the transition, which will continue until 1 December 1996. Prior to their commissioning, PAs needed a baccalaureate degree and certification by the

National Commission on Certification of Physician Assistants. The Army moved to integrate commissioned PAs into the AMEDD Promotion Plan, and for the first time they will compete for promotion as commissioned officers during FY 1993. As part of the change, the Office of The Surgeon General requested that each component of the Army grant certain qualified commissioned PAs constructive credit for the AMEDD Officer Basic Course. The Army did not anticipate any other significant changes in the training and utilization of physician assistants.

Warrant Officer Management Act

The Warrant Officer Management Act (WOMA) of 1991 initiated sweeping changes in warrant officer personnel management. The WOMA authorized a CW5 grade with specific pay and allowances, adopted a single Active Duty List System, and eliminated the dual temporary and permanent promotion system. All future promotions were to be permanent, using standardized procedures and tenure for Regular Army (RA) personnel and active duty reservists. As in the commissioned officer system, all warrant officers the Army had passed over twice for promotion would retire or be separated with separation pay. WOMA also established a time-in-grade requirement of three years of active duty before the Army would consider a warrant officer for promotion to CW3, CW4, or CW5 and a minimum of eighteen months in grade for CW2 consideration.

The WOMA also affected retirement for warrant officers. It managed warrant officers by years of warrant officer service rather than by years of active federal service, with tenure allowed up to twenty-four years' warrant officer service if promoted to CW4 and thirty years' if promoted to CW5. Retirement eligibility at twenty years of active federal service remained unaffected. The act included selective continuation boards to allow for the continued utilization in any critically short MOS of RA warrant officers the Army had passed over twice. It also established Selective Retirement Boards (SRB) to allow for the involuntary early retirement of eligible RA warrant officers who were not on a promotion list. Other warrant officers could be selected for release from active duty if they had less than eighteen years or more than twenty years of active federal service. Retirement-eligible, non-Regular Army warrant officers selected for early release could retire. The new legislation extended the involuntary separation deadline period from sixty days to the first day of the seventh month for warrant officers twice passed over for promotion and those that an SRB had selected for involuntary retirement.

A second major initiative, the Warrant Officer Leader Development Act Plan (WOLDAP), which the Chief of Staff approved in February 1992, focused on training, personnel management, and the total leader development process for both active and reserve warrant officers. The

WOLDAP contained a number of important features, such as centralized career management, clearer definitions of warrant officer duties and responsibilities, standardized selection criteria, stepped-up recruiting for reserve component warrant officers, and the establishment of eight years as the accession point for all nonaviation warrant officers. It created a warrant officer military qualification standard system and established position coding for senior warrant officer grades. It also updated the warrant officer training system, instituting warrant officer candidate schools at state

academies, providing conditional appointment to WO1 upon completion of one of the schools, and setting civilian education goals of an associate degree by the fifth year of warrant officer service and a bachelor's degree by the thirteenth. In addition, it created a warrant officer career center at Fort Rucker, Alabama, to serve as the executive agent for all warrant officer training matters.

Army Acquisition Corps

No Army function has been subjected to as much congressional oversight as the weapons acquisition program. Responding to the need for expertise in this critical area, the Secretary of the Army and the Chief of Staff in October 1989 established the Army Acquisition Corps (AAC), a combined specialized corps of military and civilian acquisition professionals. The AAC drew its manpower from an annual addition of officers in their eighth year of commissioned service who applied for the AAC and passed a review by the PERSCOM Acquisition Accession Board (PAAB). In October 1991, the Chief of Staff approved a policy change that allowed AAC officers to compete for acquisition-related Table of Distribution and Allowances (TDA) command positions. This move opened new opportunities to functional area (FA) 51 (Research, Development, and Acquisition) officers and especially to FA 97 (Contracting and Industrial Management) officers.

In December 1991 and during the AAC Personnel Functional Assessment in April 1992, the DCSPER approved a cap of 2,500 military officers for the AAC. The cap took into account the number of acquisition-related positions, including an additional 16 percent to cover impending force reductions. It set target strengths of 1,465 for FA 51, 443 for FA 53 (Systems Automation), and 585 for FA 97. In order to limit the AAC to an affordable size, the DCSPER approved enhanced promotion rates and total support for all approved 4M (captain/major) and 4Z (lieutenant colonel and above) skill level positions in planning for future officer strength levels.

The Army used the concept of the notional force (NOF) to determine the number of officers from each branch who would participate in the AAC. In coordination with the branch proponents, PERSCOM adjusted

the AAC distribution, in line with the NOF, to compensate for branch shortages. Because of the Chief of Staff's decision regarding TDA commands, the DCSPER directed filling of all FA 97 and FA 51 officer authorizations into the AAC. For FA 97, this realignment increased the number of officers in the AAC from 280 to 585 and decreased the total number in the Army from 1,800 to 585. PERSCOM accomplished this through three separate board actions that ended in June 1992. The transition of FA 51 officers began in August 1992. Three separate boards would reduce the total number of Army officers holding FA 51 from close to 5,200 to 1,465.

The DCSPER also required annual validation of positions prior to convening the PAAB. The MACOMs provided justification for each of their positions, and in July 1992 a Council of Colonels met and voted on each position. In September 1992, PERSCOM established the first Military Acquisition Position List, which defined the AAC force structure, and the Assistant Secretary of the Army for Research, Development, and Acquisition approved it. The Army sought to reposition the AAC so that all AAC officers were in acquisition position list-approved positions and so that no acquisition position list-approved positions were filled by non-AAC officers.

Fiscal year 1992 was a year of growth for the AAC. During the year, the Army added 845 new positions and 707 new civilians to the corps. By the end of the fiscal year, the AAC contained more than 1,775 members and 1,685 critical acquisition positions.

Civilian Personnel

The Army leadership designed its civilian manpower strategy according to workload requirements and affordability. Using the "Manage Civilian Workforce to Budget" philosophy, Army planners analyzed civilian affordability during the Program Objective Memorandum (POM) development process to ensure that the size of the civilian workforce was consistent with workload requirements and funding constraints. According to the 1994-99 POM, the civilian manpower level would drop from 309,400 in FY 1993 to 284,000 in FY 1997, a decrease of 24 percent from FY 1989 levels. The

Army expected to meet projected civilian personnel reductions through transfers, hiring freezes, release of temporary employees, early retirements, and RIFs. It expected to make only marginal changes in these figures as it moved from the planning to the execution stages.

The Secretary of the Army reported to the Deputy Secretary of Defense that the Army would meet its FY 1992 civilian end strength goals and have only a slight increase in Europe to support the drawdown. Civilian personnel strength dropped from 365,500 to 333,600 during FY

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1992, the largest reduction since the end of the Vietnam War. Few of these reductions came from RIFs. During the fiscal year, the Staffing Branch of PERSCOM's Civilian Personnel Management Directorate, which was responsible for processing RIFs, received fifty-four notifications of impending RIFs and thirty-four requests to conduct a RIF. While initial projections showed that 3,268 civilian employees could have been separated under RIF procedures by the end of FY 1992, the Army actually discharged only 631. The availability and use of Voluntary Early Retirement Authority (VERA), successful placement through the DOD Priority Placement Program, and vigorous placement programs established at the installation level made it possible to keep RIFs to a minimum.

The Office of Personnel Management (OPM) authorized VERA when retirements and realignments reached certain threshold levels. VERA allowed employees to elect retirement with a reduced annuity even if they would not ordinarily be eligible for retirement. They still had to meet certain requirements for age and years of service. Of the projected 1,203 civilians expected to elect VERA during the fiscal year, only 303 actually did.

As part of planning for the largest civilian drawdown the Army had faced in decades, DCSPER's Directorate of Civilian Personnel and PERSCOM's Civilian Personnel Management Directorate planned and conducted the Civilian Personnel Drawdown Training Workshop at Hunt Valley, Maryland, in July 1992. Eleven work groups addressed ten major issues in an effort to develop strategies and recommendations. The workshop produced a long-range civilian manpower reduction plan, including encouragement of civilian retirements through a liberalized VERA, retirement incentives, and selected early retirement as a last resort to avoid separation of employees ineligible to retire. A strong majority of attendees voted that the Army should consolidate support services on a regional basis, while retaining on-site staff at all levels to support the local commander in discharging his responsibilities. In addition, the group recommended that the Army move rapidly toward reimbursable servicing arrangements. Workshop conferees expressed great concern that the Army emphasize automation of human resource management, replacing current civilian personnel office hardware and making systems more user-friendly. Participants also proposed combining all "people" functions into a Human Resource Office in lieu of the current traditional Civilian Personnel Office.

The hiring prohibition imposed by the Secretary of Defense in January 1990 to reduce budgeted civilian employment levels continued throughout FY 1992. The Department of Defense had modified the hiring freeze in March 1991, allowing two civilian hires from outside DOD for each five losses. To meet the FY 1992 budgeted civilian employment lev-

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els, however, the Secretary of the Army replaced the DOD-wide "two-for-five" policy with more stringent controls in February 1992. The new policy allowed only one hire from outside the Department of the Army for each four losses but permitted a few limited exceptions.

From December 1989 to December 1991, the total Army civilian strength decreased by approximately 50,000, but the total number of high-grade positions—GS/GM-13, 14, 15—increased by more than 2,000 in the same time period. In response, the Secretary of the Army placed a cap on high-grade positions at the number that existed at the end of FY 1991 and stated that the cap would last until PERSCOM assessed the cause and justified the increase. PERSCOM investigators studied the high-grade increase; made fact-finding visits to FORSCOM, CECOM (AMC), Corps of Engineers Districts, and the Office of The Surgeon General; and reviewed the reliability of the Army Civilian Personnel

System data on high grades, but reached no conclusion by the end of the fiscal year. Between February and October 1992, the number of high-grade positions decreased from 32,826 to 32,156.

After a successful two-year pilot program, the Army during FY 1992 moved toward instituting civilian proponency across the Army. Integration of civilians into the proponency system would, the Army hoped, foster better leadership and greater understanding between military and civilian members of the Army. During the fiscal year, PERSCOM's Civilian Personnel Management Directorate worked closely with the PERSCOM Deputy Chief of Staff for Personnel Integration on the final revision of AR 600-3, *The Army Personnel Proponent System*, which formally integrated civilians into the proponent system. PERSCOM scheduled publication of the regulation for FY 1993. At the same time, the Civilian Personnel Management Directorate issued guidance to proponents on fully integrating civilians as required by the Civilian Leader Development Action Plan (CLDAP). The directorate directed that the proponents concentrate on two areas identified by the DCSPER: the development of progressive and sequential technical and leadership training plans and the integration of potentially deployable civilians into doctrine where applicable. PERSCOM action officers worked closely with representatives of all of the civilian career programs to develop a system for implementing the DCSPER's recommendations.

While the degree of progress toward proponency varied among the twenty-one civilian career programs, one stood out: the prototype "Pilot Project" of the Comptroller Civilian Career Program. The Pilot Project included training and managed operational assignments, which, along with self-development, formed the three pillars of the Civilian Leader Development Action Plan. The project provided for selection by competition, fourteen months of long-term training in the Army Comptrollership

Program at Syracuse University, and post-training operational assignments. A unique aspect of this project was that PERSCOM placed the participants, competitively chosen and referred by the Army Civilian Career Evaluation System and selected by the Army Comptrollership Program, in their future assignments prior to their arrival at the university for training. This innovation and others ensured the proper sequencing of formal training and operational assignments. These innovations also furthered the integration of civilian and military personnel systems by managing civilians in a manner similar to military personnel. They improved the return on the Army's investment by placing students in positions that would fully utilize their new skills and knowledge.

The Army recognized the need not only for leader development of civilians but also the need for a core training program parallel to that already in place for military personnel. At the close of FY 1992, leader development courses for civilians existed at four levels: intern, supervisor, manager, and executive. In addition, PERSCOM managed courses for civilians at the Center for Army Leadership, the Army Management Staff College (AMSC), and the Army Center for Civilian Human Resource Management. In April 1992, PERSCOM mandated completion of both the Basic Supervisory Development course and the Leadership Education and Development (LEAD) course by all new supervisors of civilian employees, both military and civilian. In addition, PERSCOM implemented a new procedure for the competitive selection of individuals to attend the AMSC. The CLDAP called for a Total Army Culture initiative to bring civilian and military personnel systems closer together. Total Army Culture integrated civilian selection boards with military board procedures under the Department of the Army Secretariat for Selection Boards. Along with the three AMSC boards conducted this year, PERSCOM used this centralized board process for the first time to select civilians to attend the Senior Service College.

The Army was also looking for ways to reform its development process for senior-level civilian appointments. On 2 March 1992, the Acting Deputy Chief of Staff for Personnel signed a memorandum to the functional chiefs of all Army civilian career programs endorsing the principle of centralized selection and managed assignments for positions with the senior-level career program. He stressed that the Army needed to manage operational assignments across the career programs if it was to assure that civilians received the proper blend of training and experience necessary to prepare them for Army leadership positions.

Another significant change for civilian personnel during the fiscal year was the establishment of a new career program

for the information mission area (IMA) in January 1992. The new program combined the Librarian, Automatic Data Processing, Communications, and Records

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Management career programs; a major portion of the Public Affairs and Communications Media program; and printing and publications employees, who were not previously covered by a career program. Each of these job specialties became a separate track under the broad umbrella of IMA. The consolidated IMA enabled managers to train interns under a single training program with a broad background in information management and also assured that current employees gained that same breadth of knowledge and experience. At about the same time as the IMA consolidation, the Army planned to convert one of the affected programs, Communications, to the Army Civilian Career Evaluation System. Since the most cost-effective action was to have all of the programs operate from a single source, the Communications program transferred from the U.S. Army Information Systems Command to PERSCOM as the Telecommunications track of the IMA. At the close of the fiscal year, a job analysis was under way to include Directors of Information Management (DOIM), Deputy Chiefs of Staff for Information Management (DCSIM), and Information Managers in the consolidated referral system.

Civilians represented a key part of the Army Acquisition Corps, holding critical acquisition positions at GS/GM-14 and above. In April 1992, as a result of the first functional assessment of personnel in the AAC, the DCSPER backed the concept of a requirements-driven civilian component of the right size. In June, the Acquisition Career Program Board decided to look again at the issue of size after the filling of positions and the closing and analysis of the second AAC recruiting announcement. In support of the expansion of the civilian component of the AAC, the AAC Management Office drafted civilian career management policy and procedures, which the Army was still reviewing at the end of the fiscal year.

The Army Center for Civilian Human Resource Management had an extremely successful year in FY 1992. It trained a total of 3,254 people in 59 training sessions, 1,133 in Civilian Personnel Administration, 546 in the Army Civilian Personnel System, and 1,575 as part of the Personnel Management for Executives program. The center also conducted several special courses during the fiscal year, including a Train the Trainers course on the Federal Employees Pay Comparability Act in November 1991, the first training program for personnel assistants in August 1992, a course for the Civilian Personnel Administration for Personnel Proponents in May 1992, and several ACPERS courses in Germany in May 1992.

Of the many serious issues that the Army faced in FY 1992, none was as daunting or time-consuming as the drawdown in personnel endstrength. The Army's leadership managed to reduce the size of the force structure, its accompanying personnel, and many military and civilian spaces in TDA activities. While meeting end-strength goals through a number of

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"early out" programs, such as the VET and VSI/SSB, the Army ran into problems in maintaining balance in MOSs and grades. This experience, along with increased missions, reduced training time, and the turbulence of shrinking force structure ultimately affected readiness. However, by the close of the fiscal year, many of the personnel problems had been addressed by the Army and solutions approved. By careful handling of those problems, as well as reforms in personnel policies in such areas as the commissioning of physician assistants, warrant officer career management, and civilian proponentcy, the Army looked forward to continuing the high level of performance that the Total Army demonstrated in Operations DESERT SHIELD and DESERT STORM.

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Logistics

Army logisticians faced many challenges during the fiscal year. They returned, repaired, and reconstructed war materiel from Southwest Asia and surplus materiel from the Army's reduction of its forces in Europe. They moved units, equipment, and personnel with their dependents and household goods back to the continental United States. They also reviewed logistic policy and sought to bring it into line with the Army's overall vision. As the Deputy Chief of Staff for Logistics, Lt. Gen. Leon Salomon, stated, "With an uncertain and unknown threat, a reshaping Army increasingly based in the continental United States, and tremendous changes facing us, [we] returned to the basics in 1992: a review of our essence, an update of our mission, and establishment of a vision to guide future efforts."

Management and Planning

The Defense Management Review Decisions (DMRD) established the framework for numerous changes in the way Army logisticians did their business. Army supply planners sought ways to improve the tracking of items ("asset visibility"), reduce ordering and shipping time, lower stock levels, improve distribution methods, and generally streamline supply, maintenance, and transportation. The most important of the DMRD recommendations were the Objective Supply Capability, Total Asset Visibility, the Stock Funding of Depot Level Repairables, the Single Stock Fund, Integrated Sustainment Maintenance, the Total Distribution System, and Army Item Introduction.

During FY 1992, logisticians developed an important new management tool, the Objective Supply Capability (OSC). Through the OSC, logisticians could electronically submit requisitions through a central "gateway" that, after checking inventory, selected the most cost-effective method to supply the order and then filled it from either retail or wholesale stock. Through improved communications and advanced automation, the OSC could place orders on the wholesale system on the same day that the customer generated them. It also made all assets on an Army post or

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within a specific geographical area available to that customer. An operational prototype test under the guidance of the Program Manager for Integrated Logistics Systems and the Program Executive Officer for Standard Army Management Information Systems saved \$4.4 million through the end of May 1992 by redistributing repair parts within Fort Hood, relieving supply personnel from the costlier and slower method of ordering the items from wholesale stocks. By the end of the fiscal year, the Army had fielded the OSC at Forts Hood, Texas; Polk, Louisiana; and Bliss, Texas, and extension of the program to the remainder of III Corps was proceeding on schedule. The Army planned to field the system worldwide during 1994.

The Army designed the Total Asset Visibility System to keep track of Army materiel items throughout their life cycles. In January 1992, an operational prototype covering close to 440 weapon systems and over 210,000 varieties of ammunition, repair parts, and other items supporting those systems began a year-long test involving more than 150 managers at six sites. The Army hoped that introduction of the system would produce significant savings in procurement, repair, and redistribution of materiel.

Responding to the push for changes in the supply of reparable items, the Army developed Stock Funding of Depot Level Repairables (SFDLR) under DCSLOG's Directorate for Resources and Management (DMR). To achieve greater efficiency, customers would buy reparable items with Army supply management funds, rather than receive them at no cost. In addition, each user would review database information for accuracy, rather than rely on a few logisticians to perform that task. The new system also combined three separate sources for the procurement and wholesale maintenance of secondary items into one funding account and linked the cost of these items to specific weapon systems. To introduce the process, Army logisticians distributed a computer-based training package to both active and reserve

managers and users. The Army implemented the final phase of the SFDLR at the retail level on 1 April 1992. By the end of the fiscal year, customers were more aware of the cost of operations and seeking ways to reduce costs and improve efficiency. With users paying for what they ordered, the issue of new materiel dropped 10 percent.

Sponsored by the Joint Logistics Systems Center, and in response to DMRD 927J (Consolidating Retail and Wholesale Systems), the Single Stock Fund (SSF) initiative aims to provide national-level managers with centralized control for redistributing secondary item inventories. Included are Army Working Capital Fund, Supply Management, Army, and selected Operation and Maintenance, Army, inventories. The SSF will merge assets at installation, division, corps, and theater levels to form wholesale accountable records. Key benefits include eliminating redundant inventory accounting mechanisms, increasing asset visibility, and redistributing

excess material to fill unit requests, thereby reducing wholesale procurements. The Strategic Logistics Agency (SLA), the Army Materiel Command, and FORSCOM, under the direction of ODCSLOG, planned an integrated demonstration of the SSF and Integrated Sustainment Maintenance Initiatives for 1 April 1993.

The Integrated Sustainment Maintenance (ISM) program brought together capabilities, resources, and authority for sustainment maintenance under a national-level manager. This manager coordinated active and reserve component general support units, directors of general support-level maintenance, national depots, forward repair activities, and depot-level contractor maintenance. ISM provided a direct means to connect the theater commander to all levels of assets for sustainment maintenance, so that he could more effectively plan and tailor support packages for theater logistics.

The Total Distribution System was the product of an action plan developed by a task force established by the Army in June 1991. This Total Distribution Action Plan identified 140 issues and designated fifteen agencies to implement solutions. As actions having the highest priority, the plan listed upgrading logistics automation and communications systems, developing a way to track items in transit, creating a Theater Distribution Management Center to control theater distribution and track unit locations, and ensuring a proper mix of combat service support units that deployed early to a theater. On 27 May 1992, the Vice Chief of Staff of the Army approved the Total Distribution Action Plan for implementation and included funding for the plan's automation and communications changes in the POM.

The Army intended its Item Introduction Program, formerly the Usage Based Requirements Determination, to expedite the implementation of the Sparing to Availability (STA) concept throughout the Army. The STA uses multiechelon models to generate logistical information that supports weapon system performance at the least cost. During FY 1992, the SLA approved two field demonstrations of the STA concept, one at the National Training Center and one by the 5th Infantry Division (Mechanized). These demonstrations would determine the requirements for an improved replenishment process that would compute Authorized Stockage Lists based on weapon system availability. The Item Introduction Program was supposed to aid this process by establishing baseline requirements for provisioning, cataloging, and supply management.

Activities of the Strategic Logistics Agency

A move from Fort Belvoir, Virginia, to Army Materiel Command headquarters in Alexandria, Virginia, in April 1992 was only one of many

activities for the SLA during FY 1992. With the development of the Defense Business Operating Fund, Corporate Information Management, the Joint Logistics Systems Center, and the Business Case Method for determining requirements, the SLA became heavily involved in development of new techniques for management, requirements determination, functional analysis, technical review, milestone tracking, and data presentation. The agency also established new baselines to account for changes in fielding schedules and estimated cost savings. Among other

activities, the SLA investigated new ways of supplying deployed forces by conducting a satellite communications test with ARNG units deployed to Southern Command in Panama.

On 1 June 1992, ODCSLOG transferred functional proponentcy for the Joint Computer-aided Acquisition and Logistic Support (JCALS) initiative from the Directorate for Plans and Operations to the SLA. The Army was the armed service responsible for the JCALS program, which began as an Army effort to automate and integrate logistics technical information throughout a weapon system's life cycle. As the focal point in the Army for JCALS, the SLA worked with diverse Army elements, the other services, and the Defense Logistics Agency to identify and institutionalize all of the steps necessary to establish JCALS. The Army-led JCALS Functional Requirements Management Activity, established on 27 July 1992, received responsibility to identify other functional areas for joint application.

New Developments in Medical Supply

During FY 1992, the Army Medical Department (AMEDD) took several steps toward improving its efficiency in medical logistics. It came closer to creating one medical supply system for peace and war as it converted all active Army and National Guard Table of Organization and Equipment (TOE) medical logistics units; the 6th Medical Supply, Optical, and Maintenance Battalion in Korea; and twenty-two Health Services Command hospitals to the Theater Army Medical Management Information System-Medical Supply (TAMMIS-MEDSUP). Medical logisticians also pushed for changes in solicitations by the Defense Personnel Support Center and the Veterans Administration for contracts for prime vendor support to AMEDD hospitals. The AMEDD wanted prime vendors for pharmaceuticals and medical surgical supplies to provide 24-hour delivery of supplies to AMEDD hospitals, thereby allowing the AMEDD to reduce its inventory levels by over 80 percent and its costs by about 10 percent. The AMEDD also wanted Defense Logistics Agency depots to have designated trucks on call and a 24-hour pull time on medical items, thereby decreasing the average shipment time of depot-stocked items from twenty-five days to approximately ten days. At the end of FY

1992, depots pulled most of the medical items within twenty-four hours, and dedicated trucks made door-to-door deliveries from the depots to the hospitals two to three times a week, decreasing hospital stockage levels by almost twenty days.

Sustainability

The ability to support the planned force development in all of its potential roles was essential to accomplishment of the Army's missions under the National Security and National Military Strategies. During the fiscal year, the Army took several steps to improve its ability to support its forces in combat and in operations other than war. These covered a wide spectrum of logistical issues such as war reserves; repair parts; tactical water; petroleum, oil, and lubricants; and the industrial base. In the process, the Army leadership had to balance considerations of force structure design, mobility, and personnel end strength with the available resources to properly sustain its forces.

Because the decline in forward-deployed forces required faster deployment from the continental United States in an emergency and raised the possibility that reserve units might not deploy rapidly enough, the Army decided to increase the number of active component Combat Support/Combat Service Support (CS/CSS) units. After studying doctrine, global requirements, and lessons learned from Operation DESERT SHIELD/DESERT STORM, Army planners drew up a list of the CS/CSS units required to sustain a three-division contingency force for thirty days without mobilizing reserve support units. The list included maintenance, heavy truck, medium truck, terminal transfer, supply and service, field service, and ammunition companies, as well as movement control teams and logistics headquarters. The Army could find 75 percent of these units among the active component CS/CSS units returning from Europe and Southwest Asia. The Army would station these redeploying support units in installations that were near the units they supported and that were able to support the soldiers and their families. Established end-strength levels would permit the retention of these units until FY 1995.

To provide nondivisional Aviation Intermediate Maintenance (AVIM) and limited depot support in an operational area, the Army established its Pre-positioned Sustainment Maintenance Facility (ARAPAH0) program. Operating as either a

sea-based or land-based facility, ARAPAHO consisted of a designated nondivisional AVIM unit's personnel with equipment installed in shelters. Logisticians designed the unit for loading on board a C-5 Seawitch class or larger container ship within twenty-four to thirty-six hours of receiving movement orders, and they envisioned deployment at sea within six days. The unit can use on-board Operational

Ready Float (ORF) and Forward Repair Activities (FRA) and will use extended prescribed load list/authorized stockage list (PLL/ASL). ARAPAHO's ability to deploy rapidly would hopefully save forces from waiting sixty days for a ground-based AVIM unit. As a self-transportable unit, ARAPAHO can also quickly redeploy after completing its initial mission.

War Reserves

Taking into account reductions in force structure and the latest strategic guidance, the Office of the Deputy Chief of Staff for Operations and Plans (ODCSOPS) revised its methodology for determining war reserve requirements for major items. ODCSOPS worked with the U.S. Army Concepts Analysis Agency (CAA) to improve the theater-level warfighting simulations process that CAA used to project wartime expenditures of munitions and combat losses of major items of equipment.

During FY 1992, the Army reorganized and consolidated its war reserve and operational stocks, eliminating costly excesses and striving to achieve Total Asset Visibility (TAV) under the centralized control of the Department of the Army. On 20 May 1992, the Army Chief of Staff informed Army component commanders of major policy changes in the Army Reserve (AR)—formerly Theater Reserves—and Operational Projects (OP) programs. These changes reduced the size of the AR and OP programs by 50 percent. The AR and OP accounts are now centrally funded and controlled by the Department of the Army, rather than by the separate commanders. The Army distributed stocks into strategically located common stockpiles supporting multiple commanders. It reduced the sixteen theater reserve stockpiles outside the continental United States to four Army Reserve accounts: AR-1 in the continental United States, AR-2 in Europe, AR-3 afloat, and AR-4 in Japan and Korea. Instead of developing requirements to sustain all forces, the Army will determine materiel needs for two of the most threatening regional contingencies. The Army Materiel Command (AMC) assumed responsibility for the management and accountability of all stocks except for medical supplies, which became the responsibility of the U.S. Army Medical Materiel Activity (USAMMA).

Repair Parts Support

During FY 1992, the Army sought to reduce its surplus of spare parts, as well as its inventory and management costs. Army divisions reduced their excess repair parts by 73 percent—from \$152 million in September 1991 to \$41 million in June 1992—through cross-leveling and redistributing assets throughout the supply system. The Army planned additional

reductions in excess repair parts during the next fiscal year. As for inventory and management costs, the updated Total Army Inventory Management (TAIM) program used MACOM input to identify over forty areas for cuts, including redistribution of assets, reduction of excess, automation, smaller inventory requirements, and improved transportation and distribution.

Simultaneously, the Department of the Army, ODCSLOG, and AMC initiated an aggressive program, the Class IX Asset Visibility-Inventory Reduction Initiative, to ensure that Army wholesale managers considered the availability of surplus repair parts in their purchases. Critical to this process was the Selected Item Management System-Expanded (SIMS-X), which provided the wholesale manager with information on availability of items, requirements for selected repair parts in short supply, items with long procurement lead times, and items with a high cost. In addition to reducing the Army's procurement of secondary items, SIMS-X was supposed to allow AMC to conserve Defense Business

Operating Fund (DBOF) dollars and demonstrate sound stewardship over existing Army assets. The initiative, in which SIMS-X was supposed to play such a major part, was divided into three phases. During Phase I, AMC continued to use SIMS-X to cancel requisitions for stock already surplus at the level of the requestor. Phase II, which began on 1 September 1992, required item managers to use SIMS-X data to determine what and how much to buy. During Phase III, which the Army expected to test during FY 1993, AMC was supposed to use SIMS-X data routinely to redistribute assets, including all Army-managed repair parts. The end goal of the initiative was: "Just Enough, Just on Time." Through this process, item managers were responsible for reducing the procurement of assets already in excess throughout the Army.

Tactical Water Supply

Arrangements for tactical water supply took much of Army logisticians' time and attention. During FY 1992, the Army completed the redeployment from Southwest Asia to the Sierra Army Depot of most of the 811 International Standards Organization (ISO) containers holding tactical water supply equipment. The ultimate goal was to containerize all water operational project stocks. The Army loaded the refurbished water equipment onto two of its fifteen pre-positioned ships to help meet its strategic mobility requirements. In addition, it deployed the 160-gallon lightweight collapsible pillow tank, a new five-quart water carrier, and a 3,000-gallon-per-hour (GPH) Reverse Osmosis Water Purification Unit. Tactical water support equipment, including 600 and 3,000 GPH Reverse Osmosis Water Purification Units, provided humanitarian assistance to victims and relief workers after Hurricanes Andrew and Iniki.

Bulk Petroleum Distribution

During FY 1992, the Army took further steps to implement the 1973 assignment to the Defense Logistics Agency (DLA) of the mission of DOD Integrated Materiel Manager (IMM) for Bulk Petroleum. In 1991, DOD expanded DLA's ownership of, and responsibility for, wholesale bulk fuel to include the management of bulk fuel stored in intermediate storage facilities on military bases and installations. On 1 October 1992, the Army turned over funding responsibility to DLA for bulk fuel tankage at ten U.S. and eleven overseas locations. The Army will retain ownership of these facilities, but DLA will assume the funding responsibility for their maintenance and repair as well as any associated environmental costs. The Army still has the option to continue operational control of these facilities.

During the past nine years, the Army has invested substantially in large, collapsible, tactical petroleum storage bladders and modern, lightweight aluminum pipelines with quick-lock couplings that it can install rapidly. These pipeline systems worked with great success during Operation DESERT STORM. During 1992, logisticians sent them to the Sierra Army Depot for reconstitution and repair, which will continue through 1993. The Army will reconfigure these systems into sets and pack them into ISO containers to facilitate storage and shipping.

Prior to 1990, the Army used only military specification engine oil in its vehicles. In 1990, the Army began to replace military specification oil with commercial engine oil in its nontactical vehicles, and in 1992 it began to use heavy-duty commercial engine oil in its tactical vehicles. Commercial engine oil represented a savings of 2 to 4 percent over military specification engine oil.

Supply and Maintenance

Clothing and Individual Equipment

By lightening the soldier's load and improving his protection from weather and bullets through state-of-the-art clothing and individual equipment (CIE), the Army strengthened the effectiveness of its troops. The Soldier Enhancement Program (SEP) streamlined the acquisition and fielding to high-priority units of such items as the desert combat boot, the lightweight flashlight, the improved desert battle dress uniform (DBDU), the updated hot weather battle dress uniform (BDU), and the mattax. The desert boot saw service in Operations DESERT SHIELD and DESERT STORM. In the case of both battle dress uniforms, Army logisticians introduced a lightweight nylon/cotton fabric that was more durable and more comfortable than the cotton hot weather BDU and the nylon/cotton DBDU. The

mattax, a combination mattock and axe, supplemented the entrenching tool, and Army logisticians issued one mattax per two infantrymen. At the end of the fiscal year, the Clothing Advisory Group was evaluating the policy of issuing an entrenching tool for every two soldiers.

During the fiscal year, Army logisticians made several changes in Army CIE. In the course of the year, the Army approved the Stinger Missile Jump Pack and the Combat Soldier's Sleeping System. It also approved several desert versions of clothing items that it had developed and fielded especially for Operations DESERT SHIELD and DESERT STORM, such as the aircrew BDU, the aircrew uniform (with chemical protection) for the integrated battlefield, the combat vehicle crewman's uniform, and the Suit, Contamination Avoidance Liquid Protection. The basis of issue remained the same as for woodland versions. The Army also approved an Environmental Protection Agency-approved insect repellent for the DBDU.

Army dress clothing initiatives for the fiscal year included adoption of a lightweight black dress sweater as a second sweater in the optional purchase program and the type classification of a men's short-sleeve shirt with stand-up collar. The new men's short-sleeve shirt used the same body pattern and dress collar design as the long-sleeve version, facilitating production of both shirts. The pattern could also be standardized with similar shirts used by the Air Force and Coast Guard, thereby complying with the recommendations of an OSD regulation.

Redeployment of Equipment

While operating several long-range programs during the fiscal year, logisticians also managed the return, reconstitution, and redistribution of materiel from Europe and Southwest Asia. Logisticians removed all equipment from Southwest Asia except for a training set in Kuwait. In addition, U.S. Army Veterinary Service food inspection specialists and Veterinary Corps officers inspected millions of pounds of surplus operational rations, which the United States utilized for humanitarian relief and relief for homeless Americans without a single report of illness from contaminated food. Redistribution of equipment from Southwest Asia focused on non-unit items that remained after the departures of the combat divisions. Major weapon systems, such as the M1A1 tank and Bradley fighting vehicle, went through depots to active and reserve units as part of the process of force modernization. The Army sent the remainder of the equipment through National Guard maintenance sites—for equipment going to the National Guard—or FORSCOM contract maintenance sites for equipment going to active Army or Army Reserve units. Equipment not issued to units underwent repair at maintenance sites for distribution by the end of FY 1993.

Equipment redistribution from Europe became a major issue in FY 1992. The rapid pace of the reductions left too few units to bring excess equipment up to standard for transfer to those units remaining in Europe. An assistance team from the Department of the Army went to Europe to help inspect and dispose of equipment. In addition, the Army will route equipment being returned from Europe through maintenance sites for repair prior to distribution to active and reserve component units. The Army expected that this operation would take several years to complete.

Supply and Maintenance Reforms During FY 1992

For Army installations, the ability to respond rapidly from the continental United States with overwhelming combat power to a regional crisis or a humanitarian mission became a major role during FY 1992. Some installations would launch the operating force, while others would send the supporting and sustaining materiel, individual replacements, communications, or technology. In its guidance, *Installations: A Strategy for the 21st Century*, the Army laid out a strategy calling for world-class platforms for power projection, proven leadership in city management and public administration, quality facilities and services, environmental stewardship, and responsible partnerships with local communities.

As the Army modernized its installation infrastructure, it planned to remove the traditional boundary between tactical and sustaining base activities. This approach would make possible the training of highly technical forces within limited geographical and physical limits and the more efficient mobilization, deployment, and support of Total Army forces beyond the installation. It would also provide the quality of life and of family and morale, welfare, and recreation (MWR) programs that the Army realized sustained the physical fitness, mental readiness, and mission commitment of its soldiers.

Under the Army's strategy, installations would improve their efficiency in several ways. They would reduce duplication of management by regionalization, consolidation, and competition. They would draw on neighboring public and private infrastructures for resources. They would generate revenues by charging market value prices for services and property. Furthermore, units and activities would have to program, budget, and reimburse their installations for support services, an innovation that should tie the cost of these services to mission requirements and provide an incentive to conserve resources. In short, the Army was trying to reshape the installations' structure and business processes along more entrepreneurial lines.

This new approach was demonstrated when inspections of aircraft that the Army used in Operations DESERT SHIELD/DESERT STORM and PROVIDE COMFORT revealed that the sand and salt environment in Southwest Asia

had extensively damaged them. In response, the Army turned to contractors for Special Technical Inspection and Repair (STIR) of these aircraft to prevent additional wear and corrosion damage. Army logisticians thought this to be the most timely response because major Army facilities both in and outside the continental United States possessed STIR sites, and many of these sites had been established by the Aviation and Troop Command (ATCOM) to carry out modification work orders and engineering changes to the fleet. Using contractor personnel at these sites reduced costs and repair time with minimal impact on unit readiness. The Army accordingly scheduled 1,085 aircraft—including AH-64s, CH-47s, UH-60s, and OH-58Ds—for STIR work during fiscal years 1992 and 1993, with a programmed cost of \$400.9 million. Logisticians also identified 573 UH-1Vs, OH-58Cs, and AH-1Fs requiring an extra \$131 million in reconditioning. Most of the STIR program repairs were for maintenance below depot level, but the Army did send twenty-one aircraft requiring maintenance unavailable at STIR sites to the Corpus Christi Army Depot for depot-level repair. Performance of these repairs and STIR maintenance at this site saved transportation costs.

To help improve support efficiency, the Army also instituted the Unit Level Logistics System—Aviation (ULLS-A). ULLS-A automated aircraft logistical and maintenance records and forms at the unit and intermediate levels. During the fiscal year, the Army began to purchase hardware for Force Package 1 units, and it also launched planning for aircraft-installed hardware containing the automated logbook, electronic technical manuals, and checklists.

The Army realized the need for more protective shelters for its aircraft fleet. A May 1989 storm at Fort Hood, Texas, had caused \$450 million of damage to 245 aircraft, and from June 1989 through April 1991, windstorms had damaged more than 70 Army aircraft in Louisiana, Europe, and Southwest Asia. In response, on 21 March 1990, the Vice Chief of Staff directed FORSCOM to erect Automatic Building Machine structures on posts in the southern storm belt to test their feasibility for housing aircraft. FORSCOM and the Army Staff accordingly developed plans to erect protective shelters for "proof of principle" evaluation, scheduling two shelters each for Forts Hood, Polk, and Carson. Another storm at Fort Polk in November 1991 destroyed twenty-nine aircraft, reinforcing the urgency of the Vice Chief's directive. In July 1992, the Army obtained funding and ordered material for the first two buildings. Troops from the 62d Engineer Battalion began erecting these shelters in August at Fort Hood. Each \$200,000 building could hold two aircraft of the same size as a Black Hawk or Apache.

During FY 1992, the Army's depot maintenance program went through significant changes as a result of major force structure reductions,

DMR initiatives, and the cessation of supplemental funding for Operation DESERT SHIELD/DESERT STORM. DMR initiatives improved efficiency through consolidating depot maintenance operations, internal streamlining, increased interservice operations, optimized depot maintenance capacity, and expanded public/private competition for depot maintenance missions. These steps helped Army depots to service the high volume of equipment returning from Southwest Asia. The DOD increased the program's funding level to 98 percent. These appropriations financed the overhaul and depot-level repair of major end items, the maintenance of software for weapon systems, the operation of Life Cycle Software Support Centers, and the calibration of test, measurement, and diagnostic equipment.

Transportation

During FY 1992, the Directorate for Transportation, Energy, and Troop Support began to define and to evaluate the changing roles of the Installation Transportation Offices (ITO). The development of multiple software automated systems and new computer hardware, public contracting of base operations, and conversion to General Services Administration (GSA) fleet operations was having a great impact on ITOs. In addition, the ongoing restructuring of the Army, force reductions, base realignments and closings, and support of the Army Strategic Mobility Program created broader and more demanding roles for the ITOs. The Army formed a task force of representatives from MACOMs and other interested agencies to assess ITO methods of operation and determine the impact of existing and prospective automated systems on ITO operations. In the first phase of the program, the task force evaluated the results of a survey of ITOs in the continental United States, the findings of Army Staff visits to ITO sites, and a report covering proposed options to modernize ITO activities. In the second phase, the group used the OSD corporate information management initiative to identify inefficient ITO operations and predict the efficiency of new proposals. The goal of the ITO Modernization Project is a state-of-the-art DOD model ITO with improved and more efficient methods of operation.

To cut costs, the Army sought to make better use of GSA vehicles for nontactical tasks. In 1986, the Army had begun to consolidate its nontactical vehicle (NTV) fleet of about 55,000 vehicles with GSA's interagency fleet to reduce costs. Since then, cost comparison studies have showed that the use of GSA vehicles is much more cost-effective for the Army than owning and maintaining its own fleet. The Army accordingly planned to use GSA assets for 90 percent of its total fleet by December 1992. Reliance on GSA's newer fleet will not only increase vehicle availability,

but also ease vehicle maintenance and the need for replacements. The GSA conversion plans called for the transfer of the Army's NTV fleet inside the United States, except for special-purpose vehicles, to GSA management. As a result of the consolidation of NTVs into the GSA fleet, the Army realized an immediate one-time cost saving of \$28 million, an average annual saving of approximately \$666 per vehicle. The Army expected a total cost saving of \$37 million upon completion of the conversion. At the end of the fiscal year, the Army was coordinating with GSA and the major overseas commands to explore expanding the program outside the continental United States.

The drawdown of conventional forces and the end of Stop-Loss in Europe significantly increased the number of permanent changes of station from USAREUR to the continental United States. The expanded volume of passengers, household goods, unaccompanied baggage, privately owned vehicles (POV), and pets—as well as units and equipment—being shipped in narrow windows of time resulted in a temporary saturation of the local carrier industry, ocean terminals in the continental United States, and several transportation offices. USAREUR responded by authorizing personnel to ship their unaccompanied baggage via parcel post to their new duty station in the continental United States and by borrowing military personnel from units remaining in Europe to augment installation transportation offices. Logisticians also increased the use of Direct Procurement Method (DPM) service, an alternative they normally used for small loads. Under this service, the government managed the shipment from point of origin to its destination, with each step—packing, containerization, delivery, unpacking, and storage—performed separately by commercial firms under contract. In addition, DOD used freight forwarders for line-haul transportation. USAREUR also brought household goods carriers from other countries into Germany to increase capability and changed the POV policy to allow delivery directly to the final duty station for most unit members rather than to the ocean terminal for pickup.

Even though these changes met USAREUR's moving requirements, the quality of the moves suffered. The increased use

of DPM service and the shipment of household goods exceeded the capability of the destination contractor and caused late deliveries. Another major problem was a large backlog of unaccompanied baggage in USAREUR. Logisticians instituted a number of effective corrective actions. USAREUR limited the use of DPM and emphasized the use of International Through Government Bill of Lading service, which minimized delays and damage. The reinstitution of Code "J" airlift eliminated the backlog of unaccompanied baggage. Logisticians also employed one-year temporary hires at the New Orleans ocean terminal port to expedite the movement of shipments inside the United States. Finally, the Army established a coordina-

tion link between USAREUR logisticians and their counterparts in the continental United States to monitor the program and correct problems.

Security Assistance

The Army's security assistance and international defense program helped achieve national security and foreign policy objectives by providing allied and friendly nations with the materiel and training to upgrade their defense capabilities and to improve the professionalism of their armed forces. Fiscal year 1992 proved to be one of the most productive in the history of the program, but it was also a year of many challenges. Sales of Army weapon systems to allied and friendly nations in Europe and the Middle East increased to \$23.8 billion, reflecting the unprecedented international interest in those systems. But the program had to adjust to the changing political and military environment. With the end of the Cold War and the demise of the Soviet Union, twelve former Soviet Bloc nations established diplomatic relations with the United States and became eligible to procure defense materiel, services, and training under the Foreign Assistance Act and the Arms Export Control Act. The major security assistance programs of the year were Foreign Military Sales (FMS) Cash, the Foreign Military Financing Program (FMFP), the International Military Education and Training (IMET) program, the Excess Defense Articles (EDA) program, and Drawdown of Equipment from Army Stocks (Section 506). In all, Army security assistance for FY 1992 comprised programs for 149 countries and international agencies.

In the FMS program, foreign governments purchased defense equipment, engineering and construction equipment, services, and training from the United States. During the fiscal year, new orders for Army equipment and services totaled \$3.3 billion. These new orders came primarily from countries in the Middle East in the wake of Operation DESERT STORM.

The FMFP is a grant aid and military assistance program that provides the financial resources for many countries to obtain American security assistance. It replaced the Military Assistance Program in FY 1990. During FY 1992, this program enabled forty-two allied and friendly nations to obtain \$4.4 billion worth of defense equipment, services, and training.

The IMET program provided, on a grant basis, professional and technical training to military and civilian personnel of allied and friendly nations. Training took place in the United States, at American installations overseas, and in the participating countries themselves through the use of mobile training teams. During FY 1992, the IMET program spent \$47.2 million on ninety-seven nations.

The EDA program provided excess Army materiel to foreign governments through reduced prices or grant transfers. During the fiscal year, the Army declared over 9,000 tactical wheeled vehicles eligible for transfer as a result of downsizing. The Directorate for Security Assistance reduced the time between the identification of excess equipment and its transfer to foreign customers from twenty-four months to only eight months. As a result of the FY 1993 Defense Authorization Act, the Army will be able to use the proceeds from the sale of excess inventory in fiscal years 1990-92 to help fund the modernization of its tanks and armored personnel carriers in FY 1993.

Under special authority of the Foreign Assistance Act, Section 506, the President may direct a drawdown of equipment from existing stocks to assist a foreign government or an international agency in an emergency. Through this provision, Army security assistance provided an estimated \$35 million worth of Army materiel to Mexico, Colombia, and Senegal during FY 1992.

At the end of the fiscal year, the Army estimated the cost of its security assistance programs at \$58.5 billion. Their status is shown in *Table 13*.

TABLE 13—ARMY SECURITY ASSISTANCE OPEN PROGRAMS (IN BILLIONS)

	<i>Program</i>	<i>Delivered</i>	<i>Undelivered</i>
AMC	\$41.4	\$19.5	\$21.9
Non-AMC			
COE	\$13.8	\$13.0	\$0.8
DLA/GSA	\$2.4	\$1.8	\$0.6
Other	\$0.9	\$0.5	\$0.4
Total Non-AMC	\$17.1	\$15.3	\$1.8
Total	\$58.5	\$34.8	\$23.7

Note: Amounts as of 31 October 1992.

Country Programs in Pacific Command (PACOM)

The Army continued its major role in security assistance within PACOM. Of the nations in PACOM's area of responsibility, Taiwan was still the largest participant in the Army's security assistance program. During FY 1992, Taiwan bought approximately \$485 million worth of equipment and other items through DOD FMS sales. Security assistance to Japan concentrated on coproduction, but it also included an FMS sale for a Combined Arms Live Fire Exercise (CALFEX). This CALFEX, which was approved in August 1992, will take place at the Pohakuloa Training Area in Hawaii early in FY 1993. Because of the dearth of suit-

ably large areas in Japan for modern weapons practice, the Army expected Japanese use of U.S. training facilities to grow in the future. Despite public concern about the use of American facilities for foreign training activities, DOD believed that support for Japanese readiness was in the best interest of the United States.

In May 1992, the United States signed a coproduction memorandum of understanding with Korea. Under this memorandum, the United States will sell to Korea, or coproduce with the Koreans, a total of 197 M9 Armored Combat Earthmovers. By the close of the fiscal year, the Army had delivered three vehicles. In addition, Korea expressed an interest in purchasing Deployable Medical Systems (DEPMEDS) hospitals.

During FY 1991, President Bush authorized a \$20 million drawdown under Section 506 for disaster relief to Bangladesh after a cyclone caused severe flooding in that nation. The Army has supplied \$4.9 million worth of vehicles, Landing Craft Utility (LCU), selected Mobile Training Teams (MTT), and engineer, medical, troop support, and communications equipment. During FY 1992, the Army delivered equipment and deployed survey teams and vehicle maintenance MTTs. The Army planned to send communications and LCU MTTs to Bangladesh in FY 1993.

During FY 1992, Congress approved \$25 million in FMFP and \$2.4 million in IMET funds for the Philippines, a large reduction from prior levels. The Army expected further reductions in the future because of the Philippine Senate's

rejection of the extension of base rights agreements with the United States and the completion of American troop withdrawals from the Philippines early in FY 1993. Nevertheless, substantial aid continued through FY 1992, including the transfer of excess M151A2 and M880 truck spares under Section 519 of the Foreign Assistance Act and the ongoing construction of two logistic support vessels that the Army expected to deliver to the Philippines in FY 1993.

Country Aid in European Command (EUCOM)

During FY 1992, Eastern European countries became eligible for IMET and other security assistance. The IMET program expanded to include Russia, Ukraine, and Bulgaria, which sent students to the Army War College and the Command and General Staff College. The enrollment of a Russian military officer at the Army War College marked the first time since the Revolution of 1917 that a representative from that country had attended the Army's highest educational institution. The United States also approved Romania, Georgia, Albania, Estonia, Latvia, and Lithuania for IMET, and the Army expected approval of security assistance transfers, primarily nonlethal and excess materiel, to the Baltic States. In addition, Army medical specialists participated in a five-year pediatric physical therapy program, sponsored by the World

Vision organization, to evaluate Romanian children and to train Romanian physical therapists.

On 24-25 October 1991, the United States held a high-level consultative committee meeting with Greece to discuss defense articles and finances. Greece requested M60A3 tanks and Cobra helicopters. The tanks were unavailable, but the United States offered fifteen Cobra helicopters. Under FMS, Greece also obtained twelve Apache helicopters on 24 December 1991. The process of "cascading" military hardware under the treaty's limited equipment redistribution process started during FY 1992, and Greece was allocated 359 M60A1 tanks, 312 M60A3 tanks, 150 M113A1 armored personnel carriers, and 72 M110 howitzers.

Much of the Army's security assistance effort in EUCOM involved European attempts to buy missile systems. After five years of negotiation, Denmark accepted an FMS offer of the Stinger Reprogrammable Module (RPM) Missile System in October 1991. The 940-missile deal was the largest sale of Stinger RMP missile systems to date. Also during the fiscal year, Germany asked for a coproduction program for Air-to-Air Stinger (ATAS) so that it could adapt the system for the PAH-2 Tiger antitank helicopter and the BSH-1 escort helicopter. In June 1992, the Army presented a memorandum of understanding to Turkey in response to a Turkish request to establish a coproduction program for the Army Tactical Missile System (ATACMS). To maintain the U.S. industrial base, the memorandum provided for coassembly of ATACMS components that Turkey obtained through FMS.

The Army also provided Senegal with \$10 million in Section 506 drawdown authority for peacekeeping activities in Liberia. By the end of FY 1992, Senegal had received uniforms and other personal equipment for 1,500 soldiers as well as MREs, rifles, mortars, ammunition, trucks, jeeps, field kitchens and cooking supplies, tents, cots, blankets, and other miscellaneous materiel. Some FMFP funds allowed the purchase of items not available under the drawdown authority.

Country Aid in Central Command (CENTCOM)

The American military aid program to Jordan came under attack as a result of Jordan's support for Iraq during the Gulf War. The United States suspended Jordan's participation in the security assistance program as a result of that nation's stance. By the end of FY 1992, however, the Army reopened the program at a significantly lower level.

Security assistance to other Middle Eastern countries continued almost unabated. The United Arab Emirates showed considerable interest in U.S. military equipment but actually purchased little. A potential sale of the Bradley fighting vehicle fell through, and as of the end of the fiscal year, the only major system acquired by the UAE was the AH-64 Apache

helicopter, twenty of which were supposed to be delivered by the Army in 1993. Oman expressed more interest in the acquisition of U.S. military equipment, obtaining M60A3 tanks from excess status, purchasing the V-300 armored vehicle in the commercial market, and making its first FMS purchase—M16A2 rifles. Both Saudi Arabia and Kuwait expressed interest in purchasing DEPMEDS hospitals. The Army fielded and arranged training for six DEPMEDS Mobile Army Surgical Hospitals (MASH), which went to the Royal Saudi Land Forces.

Country Aid for Southern Command and Atlantic Command (SOUTHCOM/LANTCOM)

The Army oriented most of its security assistance activities in SOUTHCOM toward counterdrug operations in Mexico and Colombia. On 8 November 1991, the State Department notified Congress that the President intended to authorize a Section 506 drawdown of DOD equipment and services for Mexico. The Army provided \$23.1 million of this \$26 million equipment drawdown, supplying twelve UH-1H helicopters, spare parts, ground support equipment, and various services. The Mexican drawdown had barely ended on 6 June 1992 when, on 30 September, President Bush directed DOD to draw down \$7 million worth of equipment, training, and services to support Colombian counterdrug activities. The Army's portion of this second drawdown amounted to \$2.2 million and consisted of the transportation of excess vehicles from Europe, radios, one UH-1H helicopter, and helicopter training for six students. The DOD planned that all equipment involved should be in the pipeline to Colombia—and training started—by 12 January 1993.

Army logisticians faced several issues that strained their resources during the fiscal year. In the midst of reductions in personnel and force structure, the Army tasked its logisticians with moving equipment and personal possessions from Europe and Southwest Asia and with disposing of surplus materiel. At the same time, logistical planners started to reshape the logistical force structure to meet the requirements of the downsizing Army, notably the need to project power in response to contingencies anywhere in the world. Army supply personnel could view with pride their ability to accomplish multiple and demanding tasks in an effective and expeditious manner. While they had not resolved all problems and contentious issues during the fiscal year, they had laid the groundwork for future resolution.

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9

Support Services

The Army provided a variety of support services on posts and in the field. Some helped to sustain the force, while others improved the quality of life for soldiers and their families, thereby raising troop morale. Personal support services included the ministry of Army chaplains, alcohol and drug counseling, and help with weight control. Installations managed libraries, day care centers, and other necessary services, such as commissary and post exchanges, legal assistance, and medical care. For units in the field, support encompassed laundry and food. In addition, the Army also supported initiatives of the Department of Defense, such as casualty and memorial affairs, prisoners-of-war/missing-in-action (POW/MIA) issues, and real property acquisition and disposal.

Personal

Education

The Army made a major effort to ensure that soldiers and civilians leaving the service received help in their difficult transition. The Army Career and Alumni Program (ACAP), which became fully operational in November 1991, provided transition assistance and job search training for soldiers and civilians leaving the Army. During FY 1992, the Army changed its policy and allowed separated soldiers, Department of the Army civilians, and their family members to continue using the ACAP for up to sixty days after their separation.

ACAP had numerous components. The Army Employer Network (AEN) listed over 5,000 employers who had expressed interest in hiring Army alumni. In addition, fifty-five Job Assistance Centers assisted almost 128,000 first-time clients during the fiscal year. To provide job assistance to personnel located at a distance from one of its Job Assistance Centers, ACAP used portable automation equipment based at Forts Benjamin Harrison, Indiana; Benning; Carson; Dix; Hood; Ord; and several sites outside the continental United States. On a test basis, a mobile job assistance van from the ACAP at Fort Carson, Colorado, made a total of twenty-one visits nationwide—seven to troop stations to assist depart-

ing personnel, and the remainder to cities to advertise their skills to prospective employers. The Defense Outplacement Referral System and the Transition Bulletin Board also came within the scope of ACAS. These DOD transition initiatives were automated employment assistance programs through which registered employers could reach soldiers and civilians leaving the Army and members of their families. By using a toll-free number instituted in November 1991, callers could hear about ACAP and its components, locate a Transition Assistance Office or Job Assistance Center near them, and learn about benefits. On 10-14 August 1992, participants from all ACAP sites as well as senior Army military and civilian leaders attended the first annual ACAP Training Conference. Testimonials from the clients of ACAP as well as from the Army chain of command attested to the quality of services ACAP provided to the Total Army family as personnel left the service.

The New Careers in Education (NCE) program, which started in 1990 under the ACAP, helped departing soldiers and other members of the Army family pursue careers as teachers and administrators in the nation's public schools. NCE was intended to help remedy nationwide shortages of qualified math, science, language, special education, and minority teachers. With support from FORSCOM, TRADOC, and the Military District of Washington, the Education Division of PERSCOM had been working with the National Executive Service Corps since September 1988 to establish and evaluate model teacher certification programs for departing Army personnel. While the Education Division handled program policy, Army Education Centers worldwide provided counseling on teacher certification requirements and alternate routes to certification, and the Deputy Assistant Secretary of the Army for Training and Education established

a toll-free telephone service that provided information on certification in more than thirty states. During FY 1992, the NCE program received almost 9,600 inquiries.

The Army also was involved in efforts to increase the number of Hispanic college students. In 1989, only 16 percent of college-age Hispanics were enrolled in college, and only 3.6 percent of college-age Hispanics were attending four-year higher education institutions. By an executive order in September 1990, President Bush requested Army agencies to advance educational opportunities for Hispanic Americans. In August 1992, the Army responded with GATEWAY (Growth and Advancement Through Education with Army), a career exploration seminar for approximately sixty selected students from the Passaic Community College of Paterson, New Jersey; the Passaic Technical High School in New Jersey; and the Hostos Community College in the Bronx, New York. This pilot program was a partnership between these schools, PERSCOM, and the U.S. Army Communications-Electronics Command (CECOM) at

Fort Monmouth, New Jersey. During the two-week seminar, instructors provided academic instruction, on-site projects, and mentoring to first- and second-year students pursuing careers in computer science, engineering, math, and science. The seminar tried to motivate the students to complete the academic requirements for a four-year college degree. PERSCOM, CECOM, and college officials planned to meet in FY 1993 to discuss employment opportunities for these students, and PERSCOM hoped that the Army could sponsor this program on a nationwide basis in the future.

Chaplain Activities

In addition to his traditional duties, the Chief of Chaplains received the mission of training soldiers in suicide awareness and prevention. The Office of the Surgeon General remained the proponent agency for suicide prevention in the Army, but the Army considered the Unit Ministry Team—the chaplains and chaplain assistants in each TOE unit—to be the best means for imparting an understanding of the dynamics of suicidal tendencies and behaviors. Under the guidance of mental health professionals, the Unit Ministry Team in each battalion-size unit provided quarterly classes and training to Army military personnel. To prepare these teams, the Army arranged for the Menninger Clinic in Topeka, Kansas, to instruct over 160 chaplains and their assistants on suicide and crisis counseling skills at an initial training session. This session was so successful that the Office of Chaplains planned for additional ones to train as many of the members of Unit Ministry Teams as possible. In addition, installation chaplains will implement the Family Member Suicide Prevention Program under the guidance of mental health professionals and in conjunction with each installation's suicide prevention program.

Available data on the results were encouraging. By the close of FY 1992, sixty-four active duty soldiers had committed suicide, a reduction of twelve from FY 1991. Even allowing for later adjustments due to changes in the originally reported cause of death, the number of active duty suicides in the 1992 calendar year was 87, compared to 102 for 1991. The ratio of suicides per 100,000 soldiers was 14.5 for 1992, a slight decrease from the 14.6 rate in 1991. By way of comparison, the civilian suicide rate for roughly the same age group (20-34) was 22-25/100,000. Psychological autopsies of soldier suicides did not indicate that downsizing or changes in policy played any role in their motivations. Psychologists still attributed suicides, in large part, to failures in personal relationships, alcohol abuse, and financial difficulties.

Alcohol and Drug Abuse

During FY 1992, the Army tightened its Alcohol and Drug Abuse Prevention and Control Program (ADAPCP). As of 1 October 1991, it

required the mandatory separation of all drug abusers with three or more years of active or reserve duty. The Army also reemphasized that soldiers involved in serious cases of alcohol-related misconduct, such as driving under the influence and repeated intoxication while on duty, would be considered for separation. These developments underlined the Army's

policy that drug and alcohol abuse was incompatible with military service.

Advances in the specificity and sensitivity of tests enabled the Army to tighten its testing standards. Through improvements in initial test kits and the gas chromatograph/mass spectrometry confirmation tests, officials could detect drugs at lower levels. Thus, levels at which it was possible to detect marijuana, cocaine, and amphetamines dropped by 50 percent. The confirmation test level for cocaine fell by 33 percent, and the levels for codeine and morphine—integral elements of the test for opiates—were reduced by 85 and 92.5 percent, respectively. During the fiscal year, the Department of Defense certified Northwest Toxicology to test for LSD using new methodology that the civilian firm had developed to detect LSD at lower levels. Reports from the Army Criminal Investigation Command and newspaper articles indicated that the use of LSD had increased, and the Army anticipated that the number of positive tests for LSD would rise with the 50 percent lowering of the confirmation level effective in December 1992. For the moment, however, the lowering of detection levels resulted only in an increase in the number of positive tests for marijuana.

The expansion of drug testing affected Department of the Army civilians as well as soldiers. When DOD lowered cutoff levels for military personnel in January 1992, the Army moved to test soldiers and Department of the Army civilians at different levels, with the Department of Health and Human Services determining testing levels for civilians. Since Northwest Toxicology had already tested civilians in the Army Materiel Command, the Army decided that the firm would be responsible for testing civilians. At this time, the Army tested close to 10,000 civilians per year. With the decision to require testing for positions requiring security clearances, the Army expected an increase to 40,000 in the future.

The Army's drug test requirements exceeded the capabilities of its forensic laboratories. To test the active Army at its current level and to add testing of the Army Reserve and National Guard, the Army renewed a contract with Northwest Toxicology in 1991. The burden on stateside laboratories was increased by the closure of the USAREUR facility in Wiesbaden, Germany, which necessitated the shipment of all test samples destined for that center to laboratories in the continental United States. The stateside laboratories absorbed the USAREUR specimens into their workload by increasing their capacity, but they faced still another problem. Prior to its closure, the Wiesbaden facility had reported results by

electronic message, but the transfer of sample evaluation to the continental United States increased the distance between the collection site and laboratory, a change that figured to increase the time involved in the process. The stateside laboratories continued the practice of reporting results to the USAREUR collection sites by electronic mail, a practice they extended to submitting sites in the continental United States as well. However, the requirement for a paper copy of all positive test results remained in effect.

Since 1988, the U.S. Army Drug and Alcohol Operations Agency has possessed responsibility for operational oversight of the Army's Alcohol and Drug Abuse Prevention and Control Program around the world. The agency has carried out systematic oversight visits and also acted as the contracting officer representative for the Adolescent Substance Abuse Counseling Service. Through the latter program, it educates military children and also identifies and treats adolescent abusers throughout USAREUR, USARPAC, and U.S. Forces Korea (USFK). During FY 1992, 1,281 adolescents were enrolled in the treatment program, the fifth consecutive annual increase.

The challenges posed by downsizing as well as other changes in the Army and the world led the agency to sponsor an Alcohol and Drug Abuse Prevention and Control Program Workshop in Indianapolis, Indiana, on 22-24 September 1992. About 200 program administrators, educators, and biochemical testing coordinators from around the world attended the workshop. The Drug and Alcohol Operations Agency worked with the Center for Substance Abuse Prevention and the Federal Quality Institute to design an agenda that focused on substance abuse prevention and Total Quality Management (TQM). Workshop speakers advocated a "paradigm shift" in which TQM provided the framework for the allocation of resources among rehabilitation and alcohol and drug abuse prevention. During the meeting, DCSPER presented certificates of appreciation to the 1991 Secretary of Defense Military Service Community Drug Awareness award winner—Fort Bragg, North Carolina—and the three runners up—Fort Sill, Oklahoma; Seneca Army

Depot, New York; and USARPAC.

In evaluating the Army drug program, investigators from MACOMs, the Army Drug and Alcohol Operations Agency, and the Army Medical Department concluded that personnel had performed in a superb manner. They reported that prevention activities were well coordinated with appropriate agencies and effectively promoted by alcohol and drug abuse control officers and clinical directors. In addition, investigators rated the overall quality of clinical care as excellent. Commanders at all levels believed that the program for adolescents was essential to their support for Army families and to their substance abuse prevention efforts.

Weight Control

Effective 15 November 1991, the Army used the ODCSPER Enhancement of Quality changes to make a number of alterations to its Weight Control Program. Under the new program, Army school personnel would screen all students upon their arrival and deny enrollment to overweight applicants. Another change allowed the unit commander to start separation proceedings if a soldier with no medical problems exceeded the body fat standard within twelve months of leaving the weight control program. The Army also required a commander to bar reenlistment or begin the process of administrative separation for soldiers whose progress in the weight control program was unsatisfactory after six months. Again, the commander would consider medical conditions that might have adversely affected a soldier's progress.

Discipline, Law Enforcement, and Military Justice

On 17 August 1972, the Army Judge Advocates General and the General Counsel of the Department of Transportation formed the Joint Service Committee on Military Justice (JSC) to prepare and evaluate proposed changes and amendments to the Uniform Code of Military Justice (UCMJ) and the Manual for Courts-Martial (MCM). During FY 1992, the JSC coordinated with the Office of Management and Budget in conducting its sixth annual review of the MCM (Change 6). This review established procedures for investigating complaints of judicial misconduct or unfitness, required the military judge to consider the government's interest before ruling on a defense request for immunity, and issued several other clarifications on procedures and the authority of the magistrate. The JSC also assisted during the fiscal year in the executive coordination of the Seventh Annual Review (Change 7), making significant changes with regard to convening authority and posttrial procedures and increasing the maximum punishments for involuntary manslaughter, negligent homicide, carnal knowledge, forcible sodomy, and sodomy with a child. The JSC also completed a preliminary Eighth Annual Review of the MCM (Change 8) and at the close of the fiscal year was studying public comments.

The 1992 DOD Authorization Act incorporated several JSC-proposed amendments to the UCMJ. These changes closed a "gap" in court-martial jurisdiction for offenses committed by reservists between drills. They also added drunken operation of a vehicle or aircraft to violations under the UCMJ and set a per se blood-alcohol level for drunken driving. Other revisions clarified the scope of depraved-heart murder, removed the spousal exemption for rape, and made rape gender neutral.

During FY 1992, the Office of The Judge Advocate General (OTJAG) completed a draft interim change to Army Regulation 27-10, *Military Justice*, that made several substantive modifications. These included clear

establishment of the "beyond a reasonable doubt" standard of guilt for nonjudicial punishment proceedings, provision for the review of a military magistrate's release of a soldier from pretrial confinement, enhancement of the Victim/Witness Assistance Program, and incorporation of the program for prosecuting criminal offenses in federal court. OTJAG planned to publish these changes in FY 1993.

The total number of courts-martial decreased by 41 percent from FY 1988 to FY 1992. The Army attributed the decline

to the drawdown of the Army's end strength and the common use of administrative separations, especially the Entry Level Separation, which removed at an early stage in their service many soldiers who might otherwise have appeared in the courts-martial statistics. However, the most significant factor in the decline in the number of courts-martial was the Army's continued enforcement of high-quality recruitment standards.

Installation

Army Communities of Excellence

Through the Army Communities of Excellence (ACOE), the Army attempted to provide the best possible services and facilities for soldiers, civilians, and their families. At the invitation of installation commanders, the ACOE office staff made on-site visits, assessed their hosts' use of TQM, suggested improvements in facilities, and conducted customer service training workshops. The ACOE also encouraged excellence through awards at the installation, MACOM, and Department of the Army levels.

During FY 1992, Army communities made tremendous improvements in renovating facilities and improving customer service. Over 200 Total Army installations entered the ACOE competition in 1992. From January through March, three ACOE teams from the active Army, Army National Guard, and Army Reserve made site assessment visits to six stateside and six overseas installations for the Chief of Staff's Active Army Award, four sites for the Chief of Staff's Special Category Award, and two stateside and two overseas posts for the Most Improved Award. They also visited five ARNG states and ten USAR centers. During a 21 May award ceremony at the Pentagon, fifty-seven Total Army communities received awards, and Fort Sill received the Commander in Chief Award at a Pentagon ceremony the following day. Of all garrison commanders surveyed in FY 1992, 96 percent agreed that ACOE had made a positive impact on the Army.

Morale, Welfare, and Recreation

The Army expected that the formation of a Board of Directors, which received the preliminary approval of Army leaders in October 1992, would

have a significant impact on the efficiency of Army Morale, Welfare, and Recreation (MWR). An outgrowth of the old Community and Family Program Review Committee, the Board of Directors enhanced the influence of Army CINCs on the process and also pinpointed fiduciary responsibility for congressionally appropriated and soldier-generated dollars. As of the close of the fiscal year, the committee members were refining their draft bylaws in preparation for discussion at the November 1992 meeting of the board. Pending board approval, working groups, subcommittees, and committees will operate according to the draft bylaws.

The Army's MWR program management strategy contained three main elements. The program element maximized benefits to soldiers and families by eliminating nuisance and user fees for category A programs and retaining those basic community support programs most in demand. It also streamlined installation MWR organization and facilitated personnel reductions. The capital financing element improved funding procedures for construction at installations. The Army MWR Fund financed all major construction that used nonappropriated funds (NAF). The corporate resource element sought to bring together appropriated and nonappropriated funds in a way that recognized the government's responsibility for support, prevented uncoordinated drawdowns from appropriated funds, and assured that soldiers paid their fair share. Using these elements, the Department of the Army and the MACOMs created a budget that promoted MWR self-sufficiency, with installations using locally generated income and available appropriated funds to provide programs and to finance minor capital improvements on a cash-flow basis.

The Army led the other services in compliance with the Military Child Care Act of 1989, particularly in funding obligations, staffing levels, inspections, accredited centers, and diversification of child-care services. Army programs sought to keep up with private industry in providing child care as a corporate benefit. Through Army Child Development Services (CDS), the Army met its obligations for appropriated child-care funding at a level that rendered

surplus some child development center (CDC) patron fees. In response, the U.S. Army Community and Family Support Center (CFSC) implemented in October 1991 a new DOD standard fee policy based on total family income. The new policy decreased fees for children of junior soldiers in the lowest income category. To help meet the demand for child care, USAREUR instituted a family child care (FCC) subsidy program throughout the command, and other installations started similar programs. The Army hoped these subsidies would lead to more FCC homes and child-care spaces. Department of the Army and MACOM CDS multidisciplinary teams inspected all CDS programs, and the Army accredited forty CDCs by the end of the fiscal year, exceeding the DOD goal. The CFSC also implemented supplemental CDS programs at most installations.

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In response to its overseas drawdown, market demand, and a desire to provide a tangible benefit to soldiers at a time of great personnel turmoil, in December 1991 the Army began to investigate the possible establishment of an Armed Forces Recreation Center in Orlando, Florida. During the first quarter of 1992, Louisiana State University faculty conducted a market survey that identified a significant demand for such a center among the 8.3 million eligible DOD patrons in the continental United States. Of these, 3.8 million lived within 900 miles of Orlando, the most popular vacation destination in America. CFSC determined that leasing an existing facility was the most feasible course for the proposed center, due to the minimal risk, the lack of availability of appropriated or nonappropriated funds for capital investment, and the project's great potential for success. The CFSC accordingly placed an ad in the *Orlando Sentinel* requesting interested hoteliers to contact the Army. The CFSC carefully evaluated the forty replies, conducted some on-site inspections, and selected three finalists. As of the close of the fiscal year, the CFSC had selected a candidate and was preparing to request the Army's approval for a lease in mid-November 1992.

The Army Recreation Machine Program enjoyed its most successful year since its worldwide implementation in 1982. During FY 1992, the program operated over 5,000 machines in Germany, Italy, the Netherlands, the United Kingdom, Panama, Japan, and Korea. The program's machines earned \$102 million in FY 1992, returning at least ninety-three cents of every dollar played to the customer in the form of funds for MWR projects. Since 1981, the program has contributed \$450 million to MWR.

In 1992, the CFSC implemented the Consolidated Ticket Consignment Program (CTCP) to consolidate DOD ticket purchases for attractions, to reduce nonappropriated funds invested in ticket inventories, and to eliminate the expense of individual procurement of tickets. The new program planned to provide the same services in the eastern United States as the naval base in San Diego gave to western military installations. It charged nonappropriated funds with the vendor net price, adding no markup to installations and saving 15 to 17 percent from the gate price. Most MWR funds added a small markup that left MWR patrons with an average saving of 10 to 12 percent. In its first eight months of operation, the CTCP supported 72 major DOD locations (44 Army MWR Funds and 28 Air Force, Marine Corps, Navy, and Civilian Welfare Nonappropriated Fund Instrumentalities [NAFI]). Through October 1992, CTCP shipped more than 63,000 tickets valued at over \$3.5 million, and installations using CTCP saved close to \$60,000. Since FY 1992 was the pilot phase of CTCP, the program handled one product line—Walt Disney World in Florida. CTCP expected to add other regional attractions and theme parks in the eastern two-thirds of the continental United States during FY 1993.

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Commissary and Subsistence Operations

On 1 October 1991, the Defense Commissary Agency (DeCA) assumed full control of all commissary systems in the Department of Defense. Headquartered at Fort Lee, Virginia, the agency operated over 370 commissaries, 111 troop issue stores, and 13 central distribution centers employing 22,000 people worldwide. The DeCA established seven regional centers headquartered at Fort Meade, Maryland; Little Creek Amphibious Base, Virginia; Maxwell Air Force Base, Alabama; Kelly Air Force Base, Texas; the Marine Corps Air Station in El Toro, Santa Ana, California; Fort Lewis, Washington; and Kapaun Air Station, Germany. It supplemented regions supervising widely dispersed commissaries with eleven district offices. Two service centers—at Fort Lee and Kelly Air Force Base—provided

contracting, bill-paying, and accounting services. During the fiscal year, DeCA closed twenty-three commissaries under BRAC, slightly reducing total sales. The commissary at Fort Belvoir, Virginia, remained the top commissary, posting total sales of \$78,171,000.

Army/Air Force Exchange Service

In January 1992, the Army and Air Force Exchange Service (AAFES) reported sales of \$7.5 billion, earnings of \$297 million, and contributions of \$224.5 million to MWR in FY 1991. The Army received \$136.4 million of these funds, with the balance going to the Air Force. The following January, AAFES reported FY 1992 sales of \$7.3 billion, earnings of \$301 million, and \$213.5 million provided to MWR. The Army received \$130.5 million of the MWR money, and the Air Force \$82.9 million.

During the fiscal year, the AAFES reorganized. In April, AAFES realigned its organization in the continental United States from four regions and fourteen sales districts to nine sales regions, eliminating a level of management. In February, the headquarters of AAFES-Europe returned to Pinder Barracks in Nuernberg, Germany, after twenty-three years at the McGraw Kaserne in Munich. In July, the AAFES consolidated the former AAFES-Pacific headquarters in Honolulu, Hawaii, with sales districts in Korea, Japan, Guam, and Thailand to form the new Pacific Rim Region Operations Center on Okinawa, Japan.

AAFES responded rapidly to natural disasters during the fiscal year. When Hurricane Andrew leveled Homestead Air Force Base, Florida, AAFES deployed mobile food and retail units to provide food service, barbershops, beauty salons, a service station, military clothing, laundry, dry cleaning, and exchange merchandise. In addition, AAFES supplied 280,000 pounds of ice, thousands of dollars worth of clothing, and tire service at no charge to hurricane victims. AAFES also brought in mobile retail trailers and food units to help the almost 4,000 troops assisting in the cleanup of Kauai, Hawaii, after Hurricane Iniki. After Hurricane Val hit

American Samoa in December 1991, the acting store manager remained in the local store for five days providing exchange services to the hard-hit customers. AAFES also supplied food, drinks, haircuts, and basic necessities to the forward-deployed troops in Turkey and Iraq during Operation PROVIDE COMFORT.

National Capital Region Lodging-Success Program

Implemented in January 1992, the National Capital Region (NCR) Lodging-Success Program located quality lodging with easy access to transportation, simplified the process of obtaining lodging near temporary duty stations, and reduced travel costs. The Army estimated annual savings in lodging and rental car costs as a result of the program would be over \$2 million. These reductions in travel costs made funds available to installation commanders for higher priority requirements.

Field

Laundry Services

During FY 1992, the Army developed a water reuse kit to reduce by half the 6,000 gallons of water required daily by the M85 Laundry Trailer Mounted (LTM). The new kit collected rinse water into a holding tank equipped with a heat exchanger and reused the water in the next wash cycle. At the end of the fiscal year, the Army had installed kits on five M85 LTMs, and seventy-five other LTMs were in the process of reequipping. All 484 M85 LTMs will eventually receive water reuse kits.

The Army also was developing the Laundry and Decontamination Drycleaning System (LADDS), a nonaqueous supplement to the M85 LTM. Planners expected LADDS, a regenerating solvent system, to eliminate the logistical burden of providing wash water on the battlefield. By the end of FY 1992, LADDS had completed Technical Test I at Aberdeen and Yuma Proving Grounds, and changes had increased the system's capacity from 160 to 400 pounds per

hour.

Food Services

In June 1992, the Chief of Staff of the Army approved a new Army Field Feeding System policy to distribute and prepare one A/B ration meal every day, rather than every third day. The Quartermaster School had developed a concept under which two cooks with sufficient equipment to provide a limited number of A/B rations were placed in divisional line companies. The proposal raised a mechanized infantry battalion's authorizations for cooks from seventeen to twenty, with ten in the companies and the remainder in the battalion headquarters. It also replaced or upgraded existing kitchen equipment with such state-of-the-art items as

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the Kitchen, Company Level Field Feeding, and it containerized kitchens and sanitation centers at battalion level and above. The concept also called for altering the rations to reduce preparation time and to simplify distribution. A food service warrant officer would serve in each major subordinate command of a division to provide peacetime training and to coordinate the wartime mission. The Chief of Staff directed the XVIII Airborne Corps to field test the concept during FY 1993, with Army-wide fielding scheduled for FY 1995.

Health and Medical Care

Years of rapidly escalating health care costs throughout DOD, the continuing restructuring and downsizing of the military establishment after Operation DESERT SHIELD/DESERT STORM, and the end of the Cold War and mounting congressional pressure led to significant changes in the existing Military Health Services System (MHSS) during FY 1992. In particular, the continuing growth and cost increases in the Civilian Health and Medical Program of the Uniformed Services (CHAMPUS) since the late 1980s had prompted Congress and the Office of the Assistant Secretary of Defense for Health Affairs (ASD [HA]) to authorize a number of health care demonstration projects in the services' military treatment facilities (MTF). These projects were designed to help determine the best way to apply civilian-style managed care approaches to DOD medical programs. As the ASD (HA) developed the new Coordinated Care Program (CCP) for managed health care in DOD, the Army had introduced its own Gateway to Care program in FY 1991 as a demonstration project of an alternate health care delivery system.

Gateway to Care and the Coordinated Care Program

The Gateway to Care (GTC) program was the Army's primary experiment with alternative health care delivery systems. For GTC, the Army drew heavily on the lessons learned since FY 1988 in two congressionally mandated Catchment Area Management (CAM) Demonstration Projects at Fort Sill, Oklahoma, and Fort Carson, Colorado. At these two posts, MTF commanders had full authority, responsibility, and resources to provide health care to all eligible beneficiaries in the designated catchment area. In addition, the GTC was shaped by DOD's CHAMPUS Reform Initiative (CRI), information from a number of other ongoing Army-initiated projects in its Medical Enhancement Program, and initiatives developed at the Office of The Surgeon General and Headquarters, Health Services Command. The program based its foundation on seven elements that were closely linked to civilian health care delivery and business practices: enrollment of eligibles, utilization management, outcomes

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study and management, primary care managers, local design and implementation, specialized treatment facilities and regions of excellence, and marketing and education for the beneficiaries. But the real key to GTC was that it returned responsibility for comprehensive health care planning and delivery to the local MTF commander. During FY 1992, the GTC program expanded to eleven more sites in the continental United States: Forts Benning; Bliss; Bragg; Campbell; Drum, New York; Gordon, Georgia; Hood; Leavenworth; Riley; and Leonard Wood, Missouri; and the U.S. Military Academy at West Point, New York. The Army estimated a cost savings of over \$5 million during the year, and it planned to phase all of the remaining MTFs in the continental United States into the program in FY 1993.

While the Army continued to work on its growing Gateway to Care initiative, the ASD (HA) unveiled its Coordinated Care Program, which would fundamentally restructure the manner in which the MHSS and Army health care delivery system functioned. In contrast to the GTC program, which focused more on increased authority and responsibility for the local MTF commander, CCP leaned more heavily on contractors to provide decisions and health care. Combining elements of the CAM and CRI projects, the CCP featured beneficiary enrollment, changes in beneficiary cost share, creation of local networks of military and civilian providers and specialized treatment facilities, merger of direct and CHAMPUS operation and maintenance funds, and local accountability with centralized oversight. The Army would develop comprehensive local health care networks by combining the MTF and CHAMPUS programs under each MTF commander. Geographic regions, each under a service lead agent, would manage the CCP at a higher level. ASD (HA) proposed phasing in the new program over a three-year period beginning in FY 1992. In April 1992, the Surgeon General submitted the Army's proposed implementation plan for the Coordinated Care Program to ASD (HA). Developed in close coordination with Health Services Command, the Army proposed to implement the new CCP at its eleven existing GTC MTFs and the two CAM facilities during FY 1992 and adding the remaining sixteen MTFs in FY 1993.

Tidewater Tri-Service Managed Care Project

In the National Defense Authorization Act of 5 December 1991, Congress directed the further development and implementation of a tri-service health care delivery program based on the CRI in the overlapping service catchment areas of the Tidewater region of Virginia. Originally developed by the Navy Surgeon General and approved by ASD (HA) in 1991, the Tidewater Tri-Service Managed Health Care Project, or TRICARE-Tidewater, would be the first tri-service, locally

managed CCP project and a prototype for the entire program. The U.S. Army's McDonald Army Community Hospital at Fort Eustis, Virginia, would participate, along with Navy and Air Force MTFs and a network of individual and institutional civilian health care providers under the overall direction of the Naval Hospital, Portsmouth, as the lead agent for ASD (HA). The project would provide three health care delivery options to over 400,000 beneficiaries—a preferred provider organization (PPO), a health maintenance organization (HMO), and the standard CHAMPUS coverage. Its objectives were to improve access to care, emphasize quality outcomes and improvement, control health care costs, and use managed care concepts to monitor and control patient usage patterns. The PPO was to begin operation on 1 October 1992 and the HMO option on 1 April 1993. In addition, ASD (HA) selected TRICARE-Tidewater as the "alpha site" for testing the Composite Health Care System Coordinated Care Program (CHCS-CCP) information management system that DOD planned to install in all MTFs. CHCS was critical to the long-run success of ASD (HA)'s plans for the centralized control and decentralized execution of the Defense Health Program and the Coordinated Care Program.

Section 733 Study

Capping a rather busy year of change for the Surgeon General was major involvement in another congressionally directed study of military medical care. In Section 733 of the National Defense Authorization Act of December 1991, Congress directed the Department of Defense to submit a final "Comprehensive Study of the Military Medical Care System" by 15 December 1993 with an intermediate report due on 15 December 1992. The overall study was under the ASD (Program Analysis and Evaluation) and called for the extensive involvement of the Department of the Army and the Surgeon General. Four functional work groups assembled in February 1992 and worked the rest of the year to develop the supporting studies on the major areas of congressional concern that would contribute to the interim report.

Health Services Command

The workload for Health Services Command during FY 1992 reflected the predominantly overseas drawdown and the increase in the number of retirees and their dependents in the continental United States. Thus, even though the Army reduced its active duty end strength by 100,000, the population supported by the command remained relatively constant.

Worldwide, average daily admissions to Army hospitals declined 2.7 percent, outpatient visits declined 1.1 percent, and births increased 10.0 percent, largely due to the modest "baby boom" follow-

ing Operation DESERT STORM. In the United States, admissions and visits remained close to their FY 1991 levels, and births increased 10 percent. The largest workload reduction occurred in Europe, as admissions and visits fell 18 and 15 percent, respectively, although births increased 14.3 percent. In Korea, births fell nearly 17 percent, and admissions and visits declined by 6 and 5 percent, respectively. In Japan, clinic visits decreased by 8 percent.

Disease Control

During FY 1992, Army Medical Department personnel continued the vital role they had played in providing preventive medicine and supporting public health during Operations DESERT SHIELD and DESERT STORM. The Preventive and Military Medicine Consultant Division of the Surgeon General's Office investigated postwar medical issues such as leishmaniasis, exposure to smoke from Kuwaiti oil well fires and depleted uranium munitions, medical defense against chemical and biological agents, and clusters of unexplained medical symptoms in several reserve component units.

As for the fight against AIDS, education and behavioral change remained the key strategies in the Army community for preventing transmission of the human immunodeficiency virus (HIV). At the end of FY 1992, the Preventive and Military Medicine Consultant Division was developing a revised Army HIV Education Plan. As a result of civilian reports in the news media, the risk of HIV transmission from HIV-infected health care workers to patients became a high profile issue. The division thoroughly investigated the case of an HIV-infected Army dentist, and the Army conducted a large-scale effort in testing and counseling as a result. None of the 1,631 former patients that the Army tested was HIV positive.

Environmental Health

The Army continued its efforts to integrate the Army Medical Department's environmental health program with the Army's overall environmental program. The environmental health staff of the Preventive Medicine Consultant's Division represented the Office of The Surgeon General (OTSG) in senior staff actions to reorganize the Army's environmental structure and to develop an overall Army environmental strategy. One of these actions streamlined the Health Hazard Assessment reporting process. The change allowed MACOMs to send requests for assessments directly to the U.S. Army Environmental Hygiene Agency (USAEHA), instead of through the OTSG, resulting in a faster response.

The Army's presence in Southwest Asia continued to present environmental health challenges for Army medical personnel. Malaria, leishma-

niasis, filth flies, and other entomological problems affected troops deployed to the Persian Gulf in the aftermath of Operations DESERT SHIELD and DESERT STORM. Preventive medicine personnel responded with guidance on repellents, fly reduction, and vector control. In 1992, the Army Medical Department gained approval for factory impregnation of desert battle dress uniforms with permethrin, a repellent that gives passive protection against biting insects and other arthropods for the combat life of the uniform. The division also initiated the establishment of the DOD Lyme Disease Center at USAEHA and coordinated with the Veterans Administration to establish a program for the periodic evaluation of soldiers wounded by depleted uranium fragments during Operation DESERT STORM.

Industrial Hygiene and Occupational Health

During FY 1992, the Army's Industrial Hygiene and Occupational Medicine consultants developed biotechnological ways of alleviating cumulative injuries that cost the Army several million dollars each year. In the area of noise hazards,

the staff in the OTSG integrated time-weighted averages of noise exposure into the Army Medical Department's hearing conservation program. This step will improve the measurement of personal exposures to excessive noise, allow quick remediation of the worst noise hazards, and direct tests of hearing acuity for overexposed workers.

Army health professionals worked throughout the fiscal year on safety and occupational health standards for the Army. The TQM partnership of Health Services Command and Army Materiel Command (AMC) developed installation occupational health programs for the AMC. The success of this partnership pointed the way to similar arrangements with other MACOMs. The Surgeon General's Office also was working on the development of a new Army regulation—11—OSH—that defined safety and occupational health operations and responsibilities on installations.

The Army Medical Department also continued its work on blood programs. The Department of Defense, supported by each service's medical department, spearheaded a new congressionally mandated blood lead screening program to identify and treat children with high blood lead levels. This program also included environmental remediation where lead-based paint in government housing caused the problem. The OTSG also distributed the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogen Standard to Army medical facilities worldwide. The standard required the development of plans to reduce bloodborne exposure to HIV and Hepatitis B viruses, and it increased the availability of the Hepatitis B vaccine to health care workers.

Casualty and Memorial Affairs

In March 1991, the Deputy Secretary of Defense designated the Secretary of the Army as the DOD executive agent for mortuary affairs. During the fiscal year, the Secretary of the Army assigned this responsibility to the Assistant Secretary of the Army for Manpower and Reserve Affairs (ASA [MRA]). The Assistant Secretary formed a DOD Mortuary Affairs Program Working Group that consisted of representatives from all of the services, the Office of the Armed Forces Medical Examiner, and the Joint Chiefs of Staff. This working group studied all aspects of mortuary affairs, including its relations to casualty assistance and medical operations. The group also reviewed three mass fatality incidents and three major contingency operations. In its report, it recommended the establishment of a DOD Casualty and Mortuary Affairs Agency to consolidate the services' casualty, POW/MIA, and mortuary affairs programs. In July 1992, the working group presented its report to the ASA (MRA), who at the end of FY 1992 was preparing to send it to the services for comment.

Prior to Operations DESERT SHIELD and DESERT STORM, the Army had developed no detailed procedures for the handling of chemically and biologically contaminated human remains. During the fiscal year, the Deputy Chief of Staff for Logistics chaired a multiservice group of experts to find ways to decontaminate human remains so that they could be safely returned to their next of kin for final disposition. The ASA (MRA) approved the group's proposals for further testing and evaluation and the development of joint doctrine. At year's end, the Army was drafting procedures for inclusion in joint Field Manual 10-63, *Handling of Deceased Personnel in a Theater of Operations*.

During FY 1992, efforts to locate and identify remains from past wars continued. With regard to World War II, the Central Identification Laboratory identified the remains of a Marine private killed on Guadalcanal and an Army private who disappeared in combat in the Netherlands. With regard to Vietnam, the laboratory identified nine individual remains from Southeast Asia as five members of the U.S. Air Force, two members of the U.S. Army, a German civilian, and a French civilian. The pathologists also determined that a group of remains were two members of the U.S. Army.

The Department of the Army's Casualty Operations Center maintained the official Army casualty database. Reported soldier deaths totaled 744 for the fiscal year, a decrease from 1,219—including deaths in the Gulf War—in FY 1991. Among dependents of soldiers stationed overseas, 188 died in FY 1992, compared to 262 for FY 1991. Soldiers reported as Very Seriously Ill/Injured and Seriously Ill/Injured in overseas areas totaled 133 for FY 1992, a decrease from the previous year's 507, which

included casualties of Operations DESERT SHIELD and DESERT STORM. Reported retiree deaths totaled 9,926 in FY 1992, a slight decrease from the 9,931 deaths reported in FY 1991.

Legal Assistance

During FY 1992, the Office of The Judge Advocate General (OTJAG) revised Army Regulation 27-3, *The Army Legal Assistance Program*. The new regulation incorporated suggestions from legal offices and lessons learned from Operation DESERT STORM. It provided for increased employment of Army Reserve and Army National Guard judge advocates and gave guidance to soldiers regarding such issues as Group Life Insurance beneficiary selection, veteran reemployment rights, and wills.

Based upon recommendations from the OTJAG, the Army and Air Force Exchange Service updated its contract with H&R Block to protect soldiers and their families. Judge advocate personnel had revealed H&R Block's failure to comply fully with the Truth in Lending and Fair Credit and Billings Acts. The new contract specifically stated how H&R Block would comply with these federal laws.

POW/MIA Support

Task Force RUSSIA

During the fiscal year, the national media reported numerous allegations that American servicemen were detained by the Soviets during World War II and the Cold War. After officials of the former Soviet Union confirmed that American prisoners had been held in Russia, the two nations formed the United States-Russian Joint Commission on POW/MIAs, which convened its first meeting in March 1992. The commission was supposed to collect and analyze information from Russian archives and citizens on missing American servicemen who may have been detained in the Soviet Union during World War II, the Korean War, the Cold War, and the Vietnam War. It would also investigate all reports alleging the presence of POWs/MIAs in the former Soviet Union, assist in facilitating repatriation if desired, and establish procedures to return any American remains to the United States.

In May 1992, the Deputy Secretary of Defense designated the Secretary of the Army as the executive agent to assist the American delegation to the Joint Commission. At the direction of the Secretary, the ASA (MRA) ordered the Deputy Chief of Staff for Personnel (DCSPER) to form a task force. The DCSPER established a five-person cell from the Total Army Personnel Command (PERSCOM) to lay the groundwork for the formation of the task force and also to serve as liaison with the three-

person cell in Moscow serving as representatives of the American delegation. On 29 June, Lt. Col. Lawrence J. Gomez, Chief of the Mortuary Affairs and Casualty Support Division, became the deputy director of the task force, named Task Force Russia.

As approved by the Department of Defense, the task force consisted of thirty-nine military personnel and civilians from the Army, Navy, and Air Force, commanded by a major general. Ten members, including a historian, an archivist, an interpreter, field interviewers, and administrative support personnel, staffed the Moscow office. The rest, including the director and deputy director, filled the various cells—task force headquarters, translation, analysis and production, collection management, database support, and administrative support—of the Washington office.

The new task force submitted its initial report to the United States delegation on 17 July 1992 and followed with additional reports every two weeks. By early September, twenty-three personnel had arrived, including seven in the Moscow office. Another twelve arrived by mid-October. The Moscow office gathered documents from Russian archives and sent these, along with interviews, to the Washington office for translation and analysis. Analysts in Washington extracted the names of servicemen, along with dates and circumstances of incidents, from the source material and compared them with information from U.S. archives to resolve cases of missing Americans.

As of the end of the fiscal year, the evidence produced by the investigation was inconclusive. Early in June, the new Senate Select Committee on POW/MIA Affairs announced the receipt of a document from the commission indicating that 125 American servicemen listed as dead or missing may have been interrogated in North Korea by the Soviets. On 30 June, President Bush told reporters at a White House press conference that the commission had not found any evidence of living American POWs/MIAs in Russia, and Malcolm Toon, American cochairman of the commission, added that commission members were hampered in obtaining Soviet intelligence and military documents.

Other POW/MIA Activities

The twenty-third National League of Families annual meeting on 23-25 July 1992 in Crystal City, Virginia, was the first time that Army medics drew blood samples from POW/MIA family members to assist in the future identification of remains. The Army coordinated government-sponsored travel to the meeting for two family members from each participating Army POW/MIA family. At the meeting, the Casualty and Memorial Affairs Operations Center (CMAOC), in coordination with the Armed Services Institute of Pathology, drew blood from selected family

members to establish a mitochondrial DNA sample file for comparisons with samples from remains then in custody or from remains received in the future. This meeting also launched a DNA outreach program that would allow those family members not in attendance to donate samples for future comparison.

During the fiscal year, the North Koreans showed a greater willingness to cooperate on the sensitive issue of recovery and identification of remains. Under the terms of the Korean Armistice Agreement of July 1953, the two sides from the Korean War had agreed to exchange remains, a process called Operation GLORY. GLORY dissolved in 1954, having exchanged few remains, but it revived with the end of the Cold War. In May 1992, North Korea repatriated remains of thirty American servicemen. These, along with five remains returned in May 1990 and eleven in June 1991, brought the total received since the termination of Operation GLORY in 1954 to forty-six. Currently, close to 6,300 Army servicemen remain "unaccounted for" out of a total of 8,177 for all the services from the Korean War. In June 1992, the J-5 of the Joint Staff hosted a meeting of representatives from the Department of State, the Office of the Joint Chiefs of Staff, the United Nations Command Military Armistice Commission (UNCMAC), the OSD (POW/MIA), and the CMAOC to discuss a draft proposal from the Korean People's Army (KPA) and the UNCMAC's prospective counterproposal for search and recovery operations for unrecovered remains. The attendees agreed that the UNCMAC should consider the KPA proposal as a sign of increased cooperation and that the UNCMAC should reach an agreement on this issue. Based upon the recommendations of the meeting, the UNCMAC will revise its counterproposal.

Also during the fiscal year, the U.S. Army Central Identification Laboratory in Hawaii began developing a database of Korean War fatalities to aid in the identification of both recently returned remains and those that the Army may recover in the future. The database also will help to identify possible locations of remains and aid in their recovery.

Construction, Facilities, and Real Property

Construction

Fiscal year 1992 was a challenging one for the military construction (MILCON) program. During fiscal years 1987 through 1989, Army construction programs used only 86 percent of programmed dollars due to delays from high costs, user changes, site problems, and obstacles in negotiations. Starting in FY 1990, the announcement of BRAC and planned force reductions led the Corps of Engineers to place many projects on hold pending stationing decisions. Following a brief moratorium on all

construction awards, in April 1991 OSD allowed some projects as long as they passed special approval procedures.

These procedures, which remained in effect throughout FY 1992, included prior approval for the projects by either the Secretary of Defense or the Under Secretary of the Army. Despite these restrictions, during the budget process Congress continually added projects that had no completed design. During FY 1992, 12 percent of the Military Construction, Army (MCA), program and 20 percent of the Army Family Housing (AFH) program were congressional additions.

The MCA and AFH construction programs during the fiscal year still fell well short of the programmed dollar totals. The FY 1992 MCA program contained 107 projects with a combined dollar value of \$660.7 million available for construction. As of 30 September 1992, the Army had awarded forty-eight projects costing \$384.6 million, or 58 percent of the programmed dollars. The Army canceled two projects with a total value of \$10.2 million during the fiscal year. The AFH construction program contained twenty-seven projects programmed at \$162 million. As of 30 September 1992, the Army had awarded nine projects at \$60.8 million, or 38 percent of the programmed dollars, and canceled none.

The U.S. Army Health Facility Planning Agency (USAHFPA)—the Surgeon General's program manager for health facility planning, programming, design, and construction—developed the Army Medical Department's capital investment plan for medical facilities, including funds for the replacement of substandard buildings or for temporary safety upgrades and alterations. The Surgeon General wanted to replace hospitals every twenty-five years, but historically the Army has not had adequate funds to support this replacement cycle. For the period from FY 1994 through 1999, the USAHFPA program included twenty-one new Army projects valued at \$216.85 million in addition to forty-five projects already in design or ongoing construction worth \$1.27 billion. During FY 1992, Congress authorized \$390 million for the construction of a new 400-bed Fitzsimons Army Medical Center in Denver, Colorado, and \$148 million for a new Walter Reed Army Institute of Research, Washington, D.C. The Army also awarded construction contracts for the new Brooke Army Medical Center/Institute of Surgical Research, Fort Sam Houston, Texas, and the new Womack Army Medical Center, Fort Bragg, North Carolina; completed construction at Madigan Army Medical Center, Fort Lewis, Washington; and continued work on the Reynolds Army Community Hospital at Fort Sill, Oklahoma, and Patch Barracks Health/Dental Clinic, Stuttgart-Vaihingen, Germany. It also made numerous other additions to medical facilities around the world.

As a result of the Secretary of Defense's consolidation of the service medical programs under the Assistant Secretary of Defense, Health

Affairs (ASD [HA]), as a unified medical budget, the USAHFPA became the program manager for the Army Medical Department's Real Property Maintenance account. USAHFPA expected the account's annual budget to approach \$295 million but did not anticipate full funding. The consolidation moved construction funding for medical training and medical research facilities from the services to the ASD (HA) and made USAHFPA the program manager.

In line with its DOD responsibilities, the Army also performed construction for the other services. The Military Construction Air Force (MCAF) program for FY 1992 contained 143 projects worth \$831 million. As of 30 September 1992, the Army had awarded fifty-nine projects valued at \$422.2 million, or 51 percent of the programmed dollars. The Military Construction Air Force Reserve (MAFR) program for FY 1992 comprised six projects budgeted at \$10 million. The Army awarded five of these projects worth \$9.5 million. Special management controls, to last through 30 September 1993, required either the Deputy Secretary of Defense or the Secretary of the Air Force to approve each project before the Army could award it. For its part, the Army did not award many projects for the usual reasons: site problems, user change, and contractor's work estimate/procurement appropriations problems.

Facilities and Real Property

During FY 1992, the Army was committed to providing excellent facilities for its soldiers, families, and civilians. Through such initiatives as the Whole Barracks Renewal and the Whole Neighborhood Revitalization Programs, the Army sought to fund essential facilities, to reduce inventory, and to supply sufficient resources for revitalization, construction, and maintenance. The Army leadership considered these goals essential to the readiness of the force, to the quality of life for soldiers and their families, and to the avoidance of long-term costs for facility replacement or

environmental compliance.

Since FY 1980, the Corps of Engineers has enjoyed almost total control of the Recruiting Facilities Program. During FY 1992, the Army Recruiting Command planned 732 new offices, relocations, expansions, and upgrades. That same year, the Corps of Engineers scheduled 735 projects and completed 649. It also used savings to complete an additional 164 projects in the annual Recruiting Facilities Reduction Program (RFRP), which involved office closures, relocations, and reductions in place. Finally, the corps exceeded its goal of 95 percent completion of the funded FY 1992 Recruiting Facilities Program.

The Army renewed its emphasis on installation master planning during the fiscal year because of the impact of downsizing on its organization and installations. The Corps of Engineers rewrote AR 210-20, *Master*

Planning for Army Installations, to establish a new component for this responsibility, the Capital Investment Strategy (CIS). Resources, not time, constrained the strategy, which provided a picture of the investment needed to revitalize Army installations to meet future Army needs. The Real Property Planning and Analysis System (RPLANS) also aided planning, particularly in the case of BRAC, by comparing installation capabilities to possible stationing actions. The Army fielded RPLANS to forty-two installations during the fiscal year and began work on expanding the system's capabilities with a space utilization model.

Substandard barracks were an increasing concern in all of the services. In June 1992, after a tri-service committee pointed out the need for changes in barracks design standardization, an Army subcommittee adopted a new set of guidelines for barracks renovations and new construction. These new guidelines barred administration, command and control facilities, and dining facilities from the barracks; provided that all rooms have separate baths, temperature controls, and wiring for cables and telephones; stipulated that barracks have enough parking to service 70 percent of the building's maximum utilization; and directed the separate establishment of a "core area" for a combination of living room, barracks manager's office, laundry area, and mail area. At the request of the Corps of Engineers and the Deputy Assistant Secretary of the Army for Installations and Housing (DASD [I&H]), the Deputy Assistant Secretary of Defense for Installations and the Deputy Assistant Secretary of Defense (Comptroller) approved the standards in July. Anticipating approval of the new standards, the Corps of Engineers had already issued revised design directives for all FY 1994 barracks projects.

The Whole Barracks Renewal (WBR) program represented the Army's long-term commitment to improve the living conditions of single soldiers through the construction and modernization of barracks in the continental United States. Too many of these soldiers lived in thirty- to forty-year-old facilities that not only required major overhaul but also were designed for the austere standards of a conscript army. The WBR program demanded a fifteen-year investment of approximately \$4 to 5 billion to bring the Army's barracks up to standard. It provided for the renovation of 158,500 existing barracks spaces and the construction of 9,000 new ones. At the close of the fiscal year, however, funding reductions for fiscal years 1993-95 had adversely affected the planned schedule.

Launched in FY 1992, the Whole Neighborhood Revitalization Program sought the systematic upgrade, repair, or replacement of Army family housing to new construction standards. The program was supposed to renovate family quarters on a 35-year cycle while reducing recurring maintenance, energy consumption, and inconvenience to occupants. The Army found that eliminating the backlog of revitalization projects would

cost \$4.31 billion as of FY 1992. However, funding reductions in the FY 1993 budget delayed the planned schedule.

In addition to the BRAC process, during FY 1992 the Army initiated the Facilities Reduction Program to decrease the number of buildings on all U.S. installations. The program had three objectives: improved utilization of permanent facilities, consolidation into the best buildings, and disposal of the worst structures. It sought to demolish 33.8 million

square feet of the worst facilities from FY 1992 to FY 1996 and established targets for all MACOMs. For most new construction, the program called for the disposal of an equal square footage of temporary buildings, although MACOMs could "cross-level" this requirement among different installations. During FY 1992, the Army invested \$35 million as demolition began to meet annual reduction targets. In nearly all cases, the facilities destroyed were World War II "temporary" buildings.

After years of meager funds for Real Property Maintenance Activities (RPMA) accounts, the Army's infrastructure had deteriorated and environmental compliance requirements had increased. The FY 1993 budget estimated the backlog of maintenance and repair at \$3.8 billion, an increase of 37 percent over FY 1992. The Army expected the major increases to lie in unaccompanied personnel housing, maintenance shops, and utility systems, many of which the corps envisioned as potentially expensive environmental compliance projects. The Army concentrated its efforts to control the maintenance and repair backlog in the continental United States, a reflection on the Army's significant reductions in overseas bases.

With less money for facilities maintenance in prospect, the Corps of Engineers improved the utilization of facilities. The Office of the Assistant Chief of Engineers published AR 405-70, *Utilization of Real Property*, to provide guidance on space authorizations and utilization. The corps established a new career program for real property personnel in the space management field and started composition of a Department of the Army pamphlet as a "how-to" guide. The corps demonstrated its receptiveness to new forms of facility utilization with the June signing by the Detroit District Commander of the first lease under the Stewart B. McKinney Homeless Assistance Act. Under the three-year lease, Damiano of Duluth, Inc., rented the former yardmaster's dwelling at Duluth Vessel Yard in Duluth, Minnesota, for emergency family housing. The signing of the lease culminated a fifteen-month effort of the Department of Housing and Urban Development, the Department of Health and Human Services, and the COE's Detroit District to provide a shelter for the homeless.

In addition to leasing property for the homeless, the Real Estate Directorate of the Corps of Engineers found other ways to help the less fortunate. One of the directorate's more unusual activities was support for

the response and recovery efforts in the aftermath of Hurricanes Andrew and Iniki. In Florida, Corps of Engineers real estate personnel obtained rights-of-entry and leases in Miami for debris removal and burn sites. In Hawaii, they leased hundreds of units of temporary housing for hurricane victims. Corps personnel managed to make these acquisitions quickly due to extensive liaison with the property owners, state and local officials, and the Federal Emergency Management Agency (FEMA). They planned to use the resulting lessons learned as the foundation for updating and streamlining the directorate's disaster response procedures.

Following a congressional mandate, Engineer district offices prepared contracts for the private management and disposal of properties acquired under the Homeowners Assistance Program (HAP). A special relief program authorized by Congress, the HAP partially compensated eligible military and federal civilian employee homeowners serving at or near military installations for losses caused by a drop in real estate values when their bases received orders to close or reduce operations. In some cases, the government actually purchased the employee's dwelling. The authorization act for FY 1993 established a demonstration project to determine whether a national contractor, local contractors, or the Corps of Engineers on a national level should administer disposal of the properties.

During the fiscal year, the Army attempted to maintain an acceptable level of support services to soldiers, their dependents and installations, and other agencies. In many instances, the Army succeeded in its efforts to fulfill its obligations. But in many cases, the Army faced delays due to fiscal uncertainty and budget cuts. In addition, downsizing actions prevented the Army leadership from adequately fulfilling many of its support responsibilities, especially in the areas of construction, maintenance, facilities, and real property. Only time and additional funds would provide the kind of support services that soldiers had come to expect from their Army.

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10

Special Functions

The Army performs functions not generally associated with its primary mission of warfighting, ranging from the important infrastructure programs of the Corps of Engineers, such as water resources development, to efforts to improve civilian marksmanship. These functions also include the handling of litigation by the Judge Advocate General's Office and the monitoring by Army inspectors of the service's efficiency, discipline, morale, and readiness. During FY 1992, the Army continued its commemoration of the service and sacrifices of World War II veterans during the fiftieth anniversary of that conflict and provided heraldic services for federal agencies. It also strove to reduce energy consumption and create more opportunities for small and disadvantaged businesses.

Civil Works

Under the direction of the Assistant Secretary of the Army (Civil Works), the Corps of Engineers (COE) planned, constructed, and operated congressionally mandated projects in the fields of navigation, flood control, hydroelectric power, municipal and industrial water supply, recreation, management of natural resources, and environmental protection. The COE also regulated construction, dredging, and fill in waterways and wetlands; carried out emergency tasks; supplied engineering and construction management to other federal agencies under its Support for Others program; and helped other nations under its International Activities program. As the world's largest public works engineering, design, and construction management agency, the Corps of Engineers employed military and civilian engineers, scientists, and other specialists in division and district offices as well as in four major research centers and laboratories. The BRAC program did not apply to the Army's civil works program. The National Defense Authorization Act amended the Base Realignment and Closure Act of 1990 to exclude from the definition of "military installation" any facility used primarily for civil works, river and harbor projects, or flood control.

The Corps of Engineers' total appropriation of \$10.8 billion covered military construction for the Army and the Air Force, design and con-

struction management for other defense agencies, environmental and restoration programs, civil works, and Support for Others projects. The last two accounted for approximately \$4.2 billion, an increase of about 9 percent from that of FY 1991. Appropriations for the Army's civil works activities, however, were part of the annual Energy and Water Development Appropriations Act rather than military appropriations. The civil works program also received close to \$142 million from nonfederal project sponsors as their share of project construction costs. Reimbursable agreements with other federal agencies financed the Support for Others program. *Table 14* shows a breakdown of these appropriations.

TABLE 14—APPROPRIATIONS AND FUNDING FOR FISCAL YEAR 1992
(IN 000s)

Operation and Maintenance, General	\$1,538,329
Construction, General	1,284,142
Flood Control, Mississippi River and Tributaries	356,437
General Investigations	194,427
General Expenses	141,500
Regulatory Program	86,000
Flood Control and Coastal Emergencies	55,000

Permanent Appropriations	12,298
Total appropriations under the Energy and Water Development Appropriations Act (including Trust Fund contributions)	3,668,133
Contributions from nonfederal sponsors under terms of the Water Resources Development Act of 1986	151,781
Support for Others Program	207,300
Superfund	248,100
Total Reimbursable Work for Other Agencies	455,400
<hr/>	
Total Appropriations and Funding	4,275,314
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The civil works program appropriations included funds to start construction of the projects in *Table 15*.

TABLE 15—NEW CONSTRUCTION STARTS
(IN 000s)

<i>Project</i>	<i>FY 1992 Funds</i>
Bayou La Batre, AL, (Channel Improvement) Navigation	\$500
Bethel, AK, Bank Stabilization	5,000
Homer Spit, AK, Storm Damage Reduction	3,295
Holbrook, AZ, Flood Control	100
Oceanside, CA, Harbor Improvement	3,100
Miami, FL, Harbor Channel Improvement	400
<i>Continued</i>	

<i>Project</i>	<i>FY 1992 Funds</i>
Richard B. Russell Dam and Lake, GA/SC, Wildlife Mitigation	10,000
Alenaio Stream, HI, Flood Control.	1,870
Des Moines and West Des Moines, IA, Flood Control	700
Missouri River, Fish and Wildlife Mitigation	1,500
Olmstead Lock and Dam, Ohio River, IL/KY	11,400
Aloha Rigolette, LA, Flood Control	50
Fort Yates Bridge, Missouri River, ND	2,500
Rio Grande Floodway, San Acacia to Bosque del Apache, NM, Flood Control	3,000
Atlantic Coast of New York City, Rockaway Inlet to Norton Point, NY, Shore Protection	2,000
Folly Beach, SC, Shore Protection	600
Brazos Island, TX, Harbor Improvement	1,000
<hr/>	
Total	47,015
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The Water Resources Development Act of 1986 mandated cost sharing for most civil projects of the Corps of Engineers. Based on percentages stated in the act, local cooperation agreements specified the nonfederal shares of projects. During

FY 1992, the Army entered into 31 new cooperation agreements, which increased the total to 201. The Army worked with Congress during the fiscal year on the passage of the Water Resources Development Act of 1992, the fourth biennial water resources authorization act since 1986.

Flood Control

Most of the flood control projects built by the Corps of Engineers were joint ventures of the federal government and nonfederal sponsors. The cosponsors owned, operated, and maintained the completed structures, including reservoirs, levees and dams, pump stations, improved channels, and floodwalls. In emergencies, the COE provided technical assistance, materials, and construction. During FY 1992, COE projects and emergency operations prevented an estimated \$8.1 billion in flood damages, or 88 percent of the nation's total flood damages prevented that year. Total damages for the fiscal year were lower than for FY 1991, mainly because drought conditions resulted in fewer floods in the huge Mississippi River basin. The COE estimated the average flood damage savings for the preceeding ten years at \$13.7 billion per year. Thus, the nation's \$20 billion investment in flood control has saved over \$7 in flood damages for every dollar spent.

Natural Disaster Preparedness, Response, and Recovery Activities

During FY 1992, the Corps of Engineers was involved in most aspects of planning and preparation for natural disasters under the Federal

Response Plan. Throughout the winter of 1991-92, storms caused flooding in Arizona, southern California, southeastern and south central Texas, Iowa, Ohio, and western New York. In response, the COE supplied emergency contracting, reservoir control, sandbags, and technical assistance. The spring of 1992 brought a major flood in Chicago when water from the Chicago River breached a freight tunnel system in the downtown area. The resulting inundation filled subbasements of multistory office buildings, disrupted power, closed the subway system, and even forced evacuation of the area around the Loop for a number of days. The Federal Emergency Management Agency (FEMA) directed the Corps of Engineers to stop the flow of water and drain the tunnel system. At the peak of their operations, 150 COE personnel were working to plug the leak and empty the tunnels. As part of its response to the flood, the corps negotiated contracts totaling over \$7 million.

In late August 1992, Hurricane Andrew hit Florida and Louisiana and Typhoon Omar struck Guam. Andrew, the costliest disaster in United States history, caused an estimated \$20 billion of devastation, killed more than 50 people, and left over 200,000 homeless. With FEMA's authorization, the Corps of Engineers removed debris and garbage, repaired schools, supplied potable water and ice, erected temporary shower and laundry facilities, furnished generators for public utilities, provided technical assistance, and prepared damage survey reports. Total costs to the COE came to \$382 million. The Air Force gave the COE \$15 million for its work on Homestead Air Force Base. In Guam, the corps, at FEMA's direction, also restored electrical power, replaced roofing with temporary plastic sheeting, provided potable water, and prepared damage survey reports.

After Hurricane Iniki struck the island of Kauai, Hawaii, in September, FEMA authorized \$40.5 million for the Corps of Engineers to provide temporary roofing, debris clearance, potable water and ice, and technical assistance. As was the case with Andrew, Iniki brought together several hundred COE personnel to work with federal, state, and local agencies in providing relief. Rarely had so many agencies at so many levels of government worked together to achieve a common goal.

Regulatory Functions

The Corps of Engineers' regulatory function has a long history. Congress established their permit or regulatory program in the nineteenth century to protect navigation, and it expanded the program in the 1970s to include the deposit of dredged and fill material into waterways and wetlands. Through an extensive review process, the Corps of Engineers has helped to implement environmental protection statutes, to preserve wetlands, and to protect other natural areas.

Although the COE budget for the

regulatory program was relatively small, Army engineers were fully committed to preserving wetlands and other natural areas.

During the fiscal year, the Corps of Engineers revised its agreements with the Departments of Commerce and the Interior and with the Environmental Protection Agency (EPA) pursuant to Section 404(q) of the Clean Water Act. Under the old agreements, local agencies often referred final decisions on permits to the Washington headquarters, thereby creating unnecessary delays and additional work for the COE. In May 1992, the Corps of Engineers issued formal guidance that clarified its role as the decision maker in the permit process. Under the new arrangement, the COE would continue to consider comments from agencies but would have sole responsibility for final decisions. The concurrence of the other agencies to this procedure gave the COE the ability to make decisions on a more timely basis.

As part of its regulatory function, the Corps of Engineers became involved in wetlands delineation. At issue were differences between an interagency manual published in 1989 and the COE 1987 wetlands manual. In August 1991, the COE started to use its own 1987 manual on an interim basis to identify and delineate wetlands, and it worked with the EPA and the Bush administration to formally adopt that manual. During the fiscal year, the Energy and Water Development Appropriations Act required the Corps of Engineers to use the 1987 manual in its regulatory program.

In August 1992, the Corps of Engineers and the EPA jointly proposed to close a loophole in the Clean Water Act that allowed unregulated discharges of excavated material associated with wetlands drainage. The changes in the *Federal Register* clarified the definition of "discharge of dredged material" while also redefining the regulation of pilings under Section 404 and codifying the COE's 1990 regulatory guidance exempting prior converted cropland from regulation. The COE received over 6,000 mostly favorable comments on this proposal.

Navigation

The Corps of Engineers' navigation mission affects commerce moving through coastal ports and along inland waterways of the United States. Using the Harbor Maintenance Trust Fund, the COE maintains the navigability of 114 major deep-draft harbors and more than 400 shallow-draft harbors. Over the years, the COE has constructed more than 12,000 miles of commercial navigation channels for intracoastal and inland waterborne commerce and has built 235 locks and dams. It also improves and maintains this extensive navigation system, drawing on the Inland Waterways Trust Fund for improvements to the inland waterway system and removing over 250 million cubic yards of dredged material from the navigation

system each year. During FY 1992, the locks of the inland and intracoastal systems were available for shipping 99 percent of the time. After almost five years of work, the Corps of Engineers finished two new locks at the Gallipolis Locks and Dam project on the Ohio River in West Virginia. The \$384 million project will eventually include construction of operational facilities and provisions for minimal impact on the environment and recreation, as well as rehabilitation of the main and auxiliary chambers.

Support for Others

The Support for Others program consisted of a variety of projects performed by the Corps of Engineers for other federal agencies. Much of the program involved reimbursable work, such as supervising the construction of wastewater treatment plants, removing toxic and hazardous waste for the Superfund, designing and building space launch facilities, and managing embassy construction and security support for the U.S. State Department and U.S. Information Agency. In particular, the environmentally related portion of the program has shown steady growth over the past several years, with the balance of the program remaining at about the same level. Under an agreement with the EPA, the corps

managed remedial design and remedial actions, such as construction or the removal of toxic wastes at Superfund sites designated by the EPA.

During FY 1992, the corps' Support for Others program totaled \$464 million and 1,190 work years. Environmental protection or restoration accounted for 60 percent of this effort. Of the environmental support, 60 percent went to the EPA Superfund toxic waste cleanup program, 30 percent to the EPA Construction Grants program, and 10 percent to the Department of Energy (DOE). The remainder of the Support for Others program served federal agencies (97 percent) and state and local governments (3 percent). Aside from the environmental projects, the agencies most affected by the Support for Others program were FEMA, EPA, DOE, NASA, and the Department of Transportation.

International Activities

The Corps of Engineers set the value of its International Activities program in excess of \$566 million for FY 1992. This figure included \$215 million for recovery operations in Kuwait following Operation DESERT STORM, \$280 million for security assistance and counternarcotics projects, \$36 million for the support of civil works projects under international treaties, \$32 million for support of other U.S. agencies under the Economy Act, and \$1.6 million for the African Civil Action Program. An additional \$1.76 million for smaller scale activities included work for other governments under the Foreign Assistance Act, support for the unified commanders, aid to the Compact of Free Association, technical assistance for

American firms competing for business overseas, and participation in international technical agencies such as the Permanent International Association of Navigation Congresses.

As its budget shows, the corps' international activities involved it in a variety of overseas ventures. The rebuilding of Kuwait's infrastructure continued during the fiscal year. Iraq's occupation had left Kuwait without public services and physically devastated. Planners had divided the reconstruction into an emergency response phase to restore basic essential services to the Kuwaitis and a reconstruction phase to provide more permanent repairs to public buildings, facilities, and services. On 30 April 1991, the emergency response phase officially ended and the reconstruction phase began when Secretary of Defense Richard Cheney designated the Secretary of the Army as the executive agent for Kuwait reconstruction. Secretary Stone assigned the responsibility for supervising the more than \$400 million program to Susan Livingstone, the Assistant Secretary of the Army for Installations, Logistics, and Environment (ASA [IL&E]), who would work in coordination with the Army's General Counsel. DOD also established the Defense Reconstruction Assistance Office (DRAO) to assist the Army with planning and organizing Kuwait's reconstruction.

In her supervision of Kuwaiti reconstruction, Assistant Secretary Livingstone sought to foster the use of American small and small disadvantaged businesses (SSDB). Contracts included clauses encouraging contract proposals with SSDB subcontractors. The Army also set aside a number of modest projects strictly for SSDBs. As Kuwait's official bureaucracy returned to operation, Livingstone directed that DOD not get involved with long-term civil contracts, but she stipulated that her office would continue its oversight until the conclusion of reconstruction contracts in the summer of 1992.

By the start of FY 1992, the Corps of Engineers, which had been assisting the Kuwaiti government with restoring facilities since January 1991, was thoroughly involved in the reconstruction phase. The corps' involvement in Kuwait was spearheaded by the Kuwait Emergency Recovery Office (KERO), which conducted damage surveys and managed reconstruction contracts. KERO completed its last damage survey on 20 November 1991. The 1,200 assessments completed since Kuwait's liberation represented the first step in obtaining contractors to repair the damage.

Although many repairs had been finished within months of the liberation, work on many facilities continued into FY 1992. KERO-administered contracts were used to rebuild at least 1,000 public buildings by December 1991. The most important remaining project was the \$67 million reconstruction of the building that housed the Kuwaiti National Assembly. This project was completed on 29 July 1992, well ahead of the next Kuwaiti elections. The Army also assisted in the restoration of Kuwait's military

facilities at the Ras Al-Qalaya Naval Base, the Al-Salem and Al-Jaber Air Bases, and the Ministry of Defense headquarters.

The Corps of Engineers anticipated that other security assistance and counternarcotics work, mainly involving programs in Latin America and Europe, would continue at a fairly stable pace in the foreseeable future. Under the Foreign Assistance Act of 1961, the corps provided technical assistance to the Honduran Department of Public Works and Transportation for flood control studies in the Sula Valley. It also supplied project management and other technical assistance to the Save the Children Foundation in El Salvador for the construction of a water distribution system, the first time that it had provided engineering assistance to an international nonprofit organization.

Under the Economy Act, the Corps of Engineers continued its projects for the U.S. Information Agency, Voice of America, and the Department of the Interior and started new ones for the U.S. Agency for International Development (USAID) in Latin America and the Philippine Islands. In Latin America, it trained Bolivian government engineers and signed an umbrella agreement to provide additional engineering assistance to USAID. In the Philippines, it studied the feasibility of reconstruction after the eruption of Mount Pinatubo in 1991, a project that it estimated would cost \$6 million. During the fiscal year, the Assistant Secretary of the Army (Civil Works) signed an umbrella Memorandum of Agreement with the Department of State's Office of Foreign Buildings Operation and also negotiated subagreements to provide technical assistance in renovating office buildings as U.S. embassies in the newly independent nations of the former Soviet Union. The COE estimated the cost of this project at \$70 million.

Environmental Protection and Preservation

Although the Army had made great progress in training, equipping, and sustaining its units in an environmentally proper manner, the Army's leadership realized that it still faced an extensive and complex challenge. Among other things, the Army had to conform to the Federal Facilities Compliance Act. This act required federal installations to comply with federal and state environmental standards.

During the fiscal year, the Army prepared U.S. *Army Environmental Strategy Into the 21st Century*. This document took into account the significance of the environment in the 1991 National Security Strategy and emphasized that all Army missions must consider the environmental impact of their activities. The Army based its environmental strategy upon the four "pillars" of compliance, restoration, prevention, and conservation. Compliance meant that all activities at Army installations had to meet Army regulations and federal, state, local, and host nation environ-

mental standards. Restoration signified the elimination of contamination at active Army installations and any sites used by any defense agency in the past. By prevention, the Army meant its efforts to eliminate sources of pollution. Conservation covered preservation and enhancement of the Army's natural and cultural assets for the benefit of all Americans and for the maintenance of the Army's ability to support operations.

The Army expected an increase in its liabilities in the areas of compliance, restoration, and conservation. In the field of compliance, the Army faced a constant challenge due to restructuring, base realignments and closures, and constantly changing and increasingly stringent legal requirements. In particular, the service anticipated cost increases as a result of a Federal Facilities Compliance Act provision that allowed regulatory agencies to fine federal agencies for noncompliance with the nation's hazardous waste law. The Army also faced additional expenditures as it began to clean up the bases and sites that it would transfer to local communities. Army planners set the preliminary cost of the Army's environmental restoration actions at \$14.3 billion, but considered this amount to be low. Based upon managers' experience with rising costs and added requirements, the Army considered adding an extra \$7.1 billion. The Corps of Engineers determined that 98 sites on 36 installations were contaminated and suspected that another 157 sites were contaminated to some extent. Initial cost estimates were \$294 million, but Army officials figured that expenditures

could reach \$471 million.

In an atmosphere of increased concern about the environment, the Army devoted more attention to wetlands and other threatened areas during FY 1992. At projects throughout the United States, the Corps of Engineers acquired additional land, expanded fish hatcheries, and made efforts to restore and protect fish and wildlife areas. Special programs protected and preserved wetlands, endangered species, fisheries, wildlife, and habitat, as well as streams and rivers. The COE also worked to prevent or reduce salt water intrusion, to create marshes using dredged material, and to divert fresh water to maintain aquatic habitat, plants, and animals. Through such efforts, the COE sought to put into practice its research on the preservation of wildlife, stabilization of shoreline, modification of fish habitat, and impact of projects on waterfowl habitat.

The Army could point to the success of its Resource Recovery and Recycling Program. This program reached a new high during FY 1992, with revenues of \$18,716,000. Its proceeds covered program operating costs, MWR activities, and energy, environmental, or safety programs.

Environmental Law

On 18 August 1992, the Tenth Circuit Court of Appeals ruled in favor of the United States in *Daigle v. Shell and the United States*. The plain-

tiffs, a group of Colorado residents, had sought compensation for medical monitoring costs under the Comprehensive Environmental Response, Compensation, and Liability Act and damages under the Federal Tort Claims Act for alleged exposure to hazardous chemicals during the cleanup of the Basin F site at Rocky Mountain Arsenal. The appeals court upheld the lower court's decision that the "discretionary function" of the Federal Tort Claims Act precluded recovery of damages from the United States. The court also reversed the lower court's ruling that allowed medical monitoring costs, holding that such costs were not recoverable under the law. At the close of the fiscal year, litigation continued with Shell Oil Company as the sole defendant.

Originating in 1984, *Werlein v. United States* was a tort action brought by ninety-two residents of New Brighton, Minnesota, against the Twin Cities Army Ammunition Plant, a government-owned factory operated by the Federal Cartridge Corporation to make small-arms ammunition during World War II and the Korean and Vietnam Wars. The plaintiffs sought \$85 million for personal injury and emotional distress due to alleged exposure to hazardous chemicals in their drinking water. One week before the start of the trial, the Federal Cartridge Corporation settled out of court for \$3.7 million, which the Army reimbursed. After about seven months of trial, the United States settled for \$1.35 million in 1992.

Army Energy Program

Since the establishment of the Army Energy Program in 1973, the Army has made significant progress in energy conservation. In FY 1991, energy consumption by facilities was 17.2 percent below the FY 1985 level. During FY 1992, the Army conducted twenty-five energy seminars worldwide and identified over \$10 million in savings. In addition, the Army approved ten 1992 Energy Conservation Improvement Projects that achieved a total net discounted savings of \$46.7 million. As a result of its efforts, the Department of the Army received three individual and two organizational awards from the 1992 Federal Energy Efficiency Award Program.

Army Litigation

Procurement Fraud

One of the Army's main legal concerns in FY 1992 was procurement fraud. The Secretary of the Army had established the Procurement Fraud Division in December 1986 to coordinate civil, criminal, and administrative actions in the field. During FY 1992, the Army suspended and debarred 478 companies accused of procurement fraud, collected over \$6

million in criminal fines, and received nearly \$59 million in civil recoveries.

Civilian Personnel Litigation

During the fiscal year, several class action discrimination suits involving the Army proceeded through the district courts. One of the most important was *Greenwood v. Stone*. The plaintiffs in this suit represented a broad range of black employees who complained of racial discrimination in several Army employment practices. The court decided, erroneously in the Army's view, to apply retroactively the Civil Rights Act of 1991, thereby subjecting the Army to a jury trial and to potential liability exceeding \$12 million. The plaintiffs planned to seek class certification in March 1993.

Two cases involving tort and sexual harassment claims against active duty officers—*Wood v. United States* and *McHugh v. University of Vermont, et al.*—moved from the trial to appellate level during the fiscal year. In *Wood*, Theresa Wood, a secretary for Maj. Charles Owens, filed a complaint in federal court against him, claiming assault and battery and civil rights violations. In *McHugh*, Janet McHugh, a secretary for Maj. Christopher Wheeler of the University of Vermont's Department of Military Studies, charged that Major Wheeler engaged in several acts of sexual and religious harassment during the six months that she worked for him. She further claimed that she was fired in retaliation for her complaints to Major Wheeler's supervisor. In each case, the U.S. attorney certified that, as stated in the Westfall Act, the officers were on official duty when the alleged acts occurred, making the United States the defendant in the suit. Although the plaintiffs challenged this determination, the courts ruled that they would not dismiss the tort claims against the officers. Appeals courts affirmed these decisions, although the 1st Circuit Court granted the Army's petition for rehearing *en banc* in *Wood*. *McHugh* returned to the district court, where the officer remained an individual defendant.

In *NFFE, et al. v. Greenberg, et al.*, a national labor union filed suit to keep DOD from asking Army civilian employees about their personal finances, arrest records, and past drug use on a security clearance form. In April 1992, the district court issued an injunction against the use of four questions on the form, thereby effectively barring use of that form and forcing the suspension of the periodic reevaluation of civilian secret clearances. The District of Columbia Circuit Court granted DOD's motion for a stay of the injunction pending appeal. Oral argument before the appellate court was scheduled to begin in October 1992.

General Litigation

Many Freedom of Information Act (FOIA) and Privacy Act cases involving the Army touched on highly sensitive issues. In one of the more significant, *Providence Journal v. Department of the Army*, a district court

ordered the Army to release an inspector general investigation concerning allegations of alcoholism, sexual harassment, and travel fraud by the Adjutant General and former Adjutant General of the Rhode Island National Guard. The Army appealed the ruling, arguing that the deliberative process exemption protected the report's findings and recommendations from release, that privacy concerns justified its refusal to disclose unsubstantiated allegations, and that the law enforcement exemption protected information from confidential sources. The Judge Advocate General's Office expected a decision in the case before the end of 1992.

Contract cases demanded considerable time and effort by Army litigators. By the end of 1992, the Army had pending almost 160 contract cases involving hundreds of millions of dollars in claims against the Army and counterclaims against contractors. A decision was pending at the end of the fiscal year in *United Technologies Corps. (Sikorski) v. United States*, in which Sikorski contested two final adverse decisions of the Army's contracting officer that required it to return \$50 million for defective rotary spindles in the Black Hawk helicopter. In *ILC Dover, Inc. v. United States*, the plaintiff sought to forbid the sole-source award of a contract for the production of the M43A1 gas mask. The plaintiff

later agreed to dismiss the complaint when the Army announced that future M43A1 mask and mask-tooling would be open to competition. In *Kollsman v. United States*, the plaintiff sought \$14 million for its work on a prospective contract to produce computer and laser range-finder systems for Egypt. The Army issued a sole-source solicitation to the plaintiff, but Egypt canceled its request before the parties signed the contract. Kollsman claimed that it should receive payment from the Army for the work it did in preparing to perform the contract, but the court ruled for the Army after a five-day trial.

One of the general litigation cases involving the Army touched on a notorious terrorist incident. In *re: Air Disaster at Lockerbie, Scotland on December 21, 1988*, the Army defeated claims that the government knew of plans to bomb Pan Am Flight 103 and failed to warn appropriate parties. At the close of the fiscal year, the Army was attempting to recover its defense costs in the case.

Military Personnel Litigation

In 1992, the Department of Defense and Department of the Army policy of excluding homosexuals faced judicial challenges. In *Pruitt v. Cheney*, Capt. Dusty Pruitt, who had been discharged by the Army in 1986 after disclosing her homosexuality in a newspaper article, sued DOD and the Army, claiming that her discharge violated her right to free speech and discriminated against her because of sexual orientation. After lower courts dismissed her free speech argument but allowed her to challenge the mer-

its of the homosexual exclusion policy, the Army appealed to the Supreme Court, which ruled that the Army must produce evidence that the homosexual exclusion policy was rationally related to legitimate governmental interests. Captain Pruitt's case bore some similarities to the highly publicized *Cammermeyer v. Cheney*, in which Col. Margarethe Cammermeyer, the former Chief Nurse of the Washington State National Guard and an admitted lesbian, challenged the homosexual exclusion policy that led to her loss of federal recognition and discharge.

In *Weinfield v. United States*, the court rejected the plaintiff's challenge to the "Social Security Offset" of the Survivor Benefit Program. The Department of Defense had reduced survivor benefits payments by the amount to which the beneficiary would be entitled under Social Security Widow's Benefits, even when, as in this case, the beneficiary drew Social Security based upon her own earnings. The plaintiff argued that the offset violated her deceased husband's implied annuity contract with the government and denied her equal protection and due process. The district court found that an election to participate in the survivor benefit program created a valid contract and ruled that the terms of the contract, as set forth in the statute, indicated that the offset applied. The plaintiff appealed the decision to a higher court.

Tort Litigation

Acquired Immune Deficiency Syndrome (AIDS) cases demanded considerable work from Army lawyers and medical personnel. Most AIDS litigation centered on blood transfusions performed during the period 1983-85, when tests for AIDS in the blood supply were unavailable. The length of time between the transfusions, poor record keeping, and concerns for donor privacy raised obstacles to obtaining the records necessary to defend the suits. AIDS litigation also involved a variety of attacks on the *Feres* Doctrine, which held that the government was not liable for injuries or damages to military personnel in connection with their military service. In *M.M.H. v. United States*, for example, an active duty soldier was initially diagnosed with the HIV virus. She had a second test while on active duty but did not receive the negative results from that test until after her discharge. The 7th Circuit Court held that, in this case, the *Feres* Doctrine did not absolve the Army of responsibility for its negligence in failing to notify the soldier before she left the Army.

The Army also encountered claims of negligence in training and supervision. In *University of Minnesota v. Brown et al.*, a student at the University of Minnesota sued the university in state court for alleged sexual harassment and rape by an ROTC instructor, and the university filed a third party complaint against the instructor's ROTC supervisors. After removal to federal court and substitution of the United States for the indi-

vidual military defendants, the district court accepted the government's argument that the student had predicated the claim of negligent supervision on the intentional tort of assault and battery, for which the United States had not waived its sovereign immunity under the Federal Tort Claims Act.

Inspector General Activities

The Inspector General (TIG) and the U.S. Army Inspector General Agency (USAIGA) keep watch over the level of economy, efficiency, discipline, morale, esprit de corps, and readiness throughout the Army. The USAIGA's Inspections Division focuses on selected topics relevant to current Army issues and responds to the requirements of the senior Army leadership. During the fiscal year, the staff conducted several in-depth inspections, lasting from six to nine months, and numerous quick inspections.

The Army's handling of whistleblowers drew congressional attention during the fiscal year. In his testimony before the Senate Governmental Affairs Committee, the Inspector General, Lt. Gen. Ronald H. Griffith, discussed the Army's procedures for protecting whistleblowers. Although the committee was satisfied with the Army's procedures, it recommended that allegations of reprisals be investigated by personnel from an organization other than that of the complainant. The Army accordingly instituted procedures to carry out this recommendation.

Much of the Inspector General's work dealt with the reserve components. During FY 1992, the Inspector General assessed the mobilization and training of National Guard roundout brigades during the Gulf War for the House Armed Services Committee. He also visited active and reserve component units to assess their recovery from Operation DESERT STORM, encouraging reservists to use temporary tours of active duty and fragmented annual training to overcome the constraints of time and limited manpower. The Inspections Division looked into the inactive duty training and annual training of reservists, visiting 9 brigade and 30 battalion headquarters and 99 companies or detachments during inactive training and 8 brigades, 3 battalions, and 73 companies during annual training. The inspectors concluded that most reserve officers and noncommissioned officers (NCO) neither understood nor applied the training doctrine contained in Field Manuals 25-100 and 25-101. As part of their evaluation and training, and in coordination with TRADOC's Future Army Schools-Twenty-one (FAST) initiative, the inspectors assessed the reserve component school system for efficiency and monitored the assignment of active soldiers to reserve units to help with training. By the end of FY 1993, 2,000 active officers and NCOs were supposed to be assisting the reserves.

During the fiscal year, inspectors assessed the efficiency of the Army's installation management system in its support of base operations. They examined the impact of declining resources and institutional impediments to efficient management and found that, despite the efforts of local commanders, the Army did not efficiently manage its installations. These problems resulted in part from the absence of an integrated Army management system for installations as organizational entities.

A joint Army-Air Force inspection assessed the effectiveness of the Army and Air Force Exchange System (AAFES) in supporting soldiers, airmen, and their families. Patrons reported that they were generally satisfied with the quality of AAFES products and services, and the inspectors concluded that the AAFES operated efficiently and profitably. However, an informal price survey indicated that AAFES customers saved about 8 percent compared to civilian commercial outlets. This figure fell below the AAFES goal of 20 percent savings and indicated that AAFES needed to reevaluate its pricing methods.

As part of its charter, the Inspector General's Office also investigated allegations against general officers and Senior Executive Service civilian employees. During the fiscal year, investigators conducted thirty-three formal investigations and over a hundred preliminary inquiries and found substantiation for approximately 30 percent of the allegations. The most frequent allegations concerned standards of conduct violations, misuse of government equipment and personnel for personal gain, sexual harassment and improper relationships, and tampering with selection boards. Because senior level

misconduct was often a result of ignorance, the Inspector General's Office sought to educate the field regarding the limits of permissible behavior. Formal presentations to commanders at all levels and at the Inspector General School and continuous dialogue with MACOM inspectors general were the primary means of educating Army personnel.

The Inspector General and USAIGA were involved in numerous other activities during the fiscal year. The Inspector General's Office conducted twenty-two follow-up inspections throughout the Army and validated monetary benefits of \$387.2 million. Foreign Military Sales, Pre-positioned Medical War Reserves, and Family Housing represented some of the more significant of these. The Inspector General also made recommendations for improving the performance of the Army's materiel management and mobilization planning and for enhancing the soldier's quality of life. Army inspectors made technical inspections as well. From April to August, the staff conducted concurrent evaluations of Army reactors, both active and inactive, and chemical safety. With the removal of nuclear weapons from the Army's arsenal, the number of Nuclear Surety Inspections (NSI) declined to one inspection of a reactor. In January 1992, Army inspectors completed the Chemical Management Evaluation of Chemical Agent and Dilute Solution

Contracting. Short-term assessments conducted by inspectors during the fiscal year covered such issues as the loss of night vision goggles, the utilization of aviation mechanics, preretirement and SERB processing, operations at the USAREUR Soldiers Recreation Center in Berchtesgaden, the Commercial Activities Program, and the Dependent Dental Plan. During the fiscal year, the Inspector General's Office also began to convert its Inspector General Worldwide Network from a centrally managed Convergent Technologies system to the Open Systems Environment.

Statistics told much of the story. During the fiscal year, the Inspector General received 2,151 Inspector General Action Requests, including 1,532 allegations and 619 requests for assistance. Of this total, 42 percent came from the active Army, 31 percent from unknown sources, 14 percent from civilians, and 13 percent from the reserve components. Of the allegations, 21 percent were substantiated, 68 percent were unsubstantiated, and 11 percent remained undetermined. One-quarter of the allegations involved complaints about personal conduct, sexual harassment, racial discrimination, and nonsupport of family members. Twenty-four percent (511) of the complaints pertained to the command and management of organizations that cared for soldiers and family members, stored and shipped personal property, and exercised command influence. Military personnel issues—recruiting, reassignments, evaluations, promotions, separations, and awards and decorations—accounted for 15 percent of the reports. Civilian personnel management—management-employee relations, recruitment and placement, and promotions and awards—constituted 8 percent of the actions, while 6 percent of the requests concerned pay and allowances and financial services.

Small and Disadvantaged Business Utilization

A presidential executive order and congressional direction required the Department of Defense to increase the participation of historically black colleges and universities and minority institutions in all funded programs. During FY 1992, the Army established two Research Centers of Excellence at minority schools, with a funding level of \$2.25 million. The Army also awarded \$12.8 million, the largest award ever made to a minority institution, for Defense Department-related research and a separate award of \$862,000 to conduct post-wide education and training services.

Civilian Marksmanship Program

The Civilian Marksmanship Program traces its roots to 1903, when Congress passed an act requiring the Secretary of the Army to promote marksmanship training among U.S. citizens not active in military service.

The program seeks to maintain a fundamental level of marksmanship training throughout the United States, to instruct individuals who are subject to induction into the armed forces, and to prepare trainers. In particular, the program emphasizes training the nation's youth in safe, responsible, and disciplined firearm use. It supplies rifles, ammunition, and targets at no cost to 1,800 clubs and associations with about 138,000 members. With substantial assistance from the

National Rifle Association, the program conducts the National Matches, competitive shooting's "World Series," which draw over 3,000 contestants. The National Board for the Promotion of Rifle Practice, with the Undersecretary of the Army as president, directs the program and advises the Secretary of the Army on the promotion of rifle marksmanship consistent with the congressional mandate. An Army colonel serves as director of the program. Participants are recruited by the Army for military shooting teams, and the Olympic and U.S. shooting teams rely on the program as a major source of civilian marksmen.

Public Law 101-510 required the Civilian Marksmanship Program to become fully self-sufficient by 1 October 1992, but the National Board believed this deadline to be unfeasible. It argued that the drawdown of the Army increased the significance of the program and that, in the event of a full mobilization of the armed services, the marksmanship program would supply qualified instructors to augment the training base for reserve component soldiers of all services. To preserve the program, the board sought an appropriation of \$2.7 million for FY 1993.

World War II Commemoration

The Department of Defense formed a 50th Anniversary of World War II Commemoration Committee to conduct, coordinate, and support commemorative programs between 7 December 1991 and 11 November 1995. The committee sought to promote a clearer understanding and appreciation of the history of World War II; to celebrate the contributions of the war's veterans, their families, and people on the home front; and to foster an awareness of World War II as the central event of the twentieth century. It also desired to highlight advances in technology, science, and medicine related to military research during the war and to recognize the contributions of American allies. Finally, the committee planned to highlight the role of the armed forces of the United States, then and now, in maintaining world peace through strength.

National Museum of the United States Army

During FY 1992, the Management Directorate of the Army Chief of Staff's Office continued to work with the U.S. Army Center of Military

History to provide a site for the National Museum of the United States Army. This museum would be the capstone of the Army museum system, telling the story of the Army as an institution in war and peace and serving as the Army's face to the American people. The idea of a national Army museum had been endorsed by the Secretary of the Army in May 1983, and subsequent senior leaders have continued to support the concept. Throughout FY 1992, the Army expended considerable effort to obtain the site of the former Twin Bridges Marriott Motel near the Pentagon for its museum. The Army negotiated a possible land exchange with the site owners, coordinated its activities with Arlington County and various review agencies, had the property appraised, and started a feasibility study for the site. The Army also started the acquisition process for a parcel of land at Fort Belvoir, where it planned to build a museum support center.

Institute of Heraldry

During FY 1992, the Institute of Heraldry continued to furnish heraldic services to the armed forces and other U.S. government organizations. These included decorations, seals, medals, insignia, badges, flags, and other items awarded or authorized for official wear or display by government agencies and personnel. During the fiscal year, the workload of the Institute of Heraldry increased due to a higher number of requests from the Armed Forces and other federal agencies. The institute designed and developed heraldic items for wear or display by the armed services, including over 100 distinctive unit and shoulder sleeve insignia for Army units, as well as service awards for the Defense Commissary Agency and the Defense Information Systems Agency and a miniature version of the Liberation of Kuwait Medal. It prepared seals for the Armed Forces Inaugural Committee, the Bureau of Indian Affairs, and the Inspector General of the Office of the General Services Administration, as well as wall plaques for various executive branch agencies.

Many functions of the U.S. Army were little known by the general public or not readily perceived as Army-oriented. In

addition to its longstanding mission of civil works, the Corps of Engineers also spearheaded recovery and rebuilding activities after natural disasters, supported reconstruction in war-ravaged Kuwait, and restored fish and wildlife habitats around the nation. The Army also was involved in litigation to recover millions of dollars in procurement fraud, as well as highly publicized class action suits and other key actions. In addition, the Inspector General and his office investigated several major issues, such as unit recovery from Operation DESERT STORM, installation management, the Army's environ-

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mental program, training, the AAFES, and the Army's sponsorship program. During FY 1992 the Army continued its commemoration of the sacrifices of its World War II veterans. These activities showed once again that the Army's missions and responsibilities went far beyond fighting wars and preparation for combat.

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Conclusion

During FY 1992 the Army leadership performed a balancing act, reducing force structure and manpower while simultaneously attempting to maintain training and readiness. The end of the Cold War and the rising federal budget deficit put enormous pressure on the U.S. military establishment to reduce its costs by cutting units, personnel, and expenditures in such areas as technology and infrastructure. At the same time, the Army and the nation faced a post-Cold War world in considerable ferment as new regimes emerged, boundaries changed, and old animosities reappeared. Instead of the containment of communism, the Army now needed to prepare for a wide array of missions from aid to victims of natural disasters to interdiction of the flow of illegal drugs at home to protection of the West's oil supply and deterrence of aggression abroad. Operation JUST CAUSE in Panama and the Persian Gulf War drove home the need for an Army prepared to deploy on short notice to trouble spots around the globe. The competing demands of readiness and reductions in expenditures affected almost every activity in which the Army was engaged during the fiscal year.

Among the most affected areas of interest to the Army was force structure. Using the new concept of the Base Force, the Army inactivated the VII Corps, the 8th Infantry Division, the 3d Armored Division, and numerous other formations from its force structure during FY 1992. While making these cuts in force structure, the Army also pushed ahead with its revision of FM 100-5, *Operations*, incorporating lessons learned from recent operations as well as expanding coverage of mobilization, deployment, and the full range of possible missions. The Army also continued its efforts to improve its strategic mobility, helping to define requirements for more transport aircraft and pre-positioned ships, allocating funds to improve railroad transportation to ports, and shifting pre-positioned material from Central Europe to southern Italy, Southwest Asia, and Korea.

Mobilization planning and training consumed much of the Army's attention during the year. The Army instituted the Army Mobilization and Operations Planning and Execution System as a single source on mobi-

lization policies and procedures, and it revised its approach to critical items for industrial mobilization. Army training programs revised their training to make more extensive use of simulators in response to funding and environmental constraints. In ULCCHI FOCUS LENS 92, the Army conducted the first theater-level simulation exercise in Army history. To handle the sweeping changes in Army force structure and doctrine, General Sullivan instituted the Louisiana Maneuvers, which made extensive use of simulations, exercises, and maneuvers to test operational concepts and force designs.

Even in the aftermath of the Cold War and DESERT STORM, FY 1992 was a busy year for the major Army commands. Additional units came under FORSCOM, the command that would oversee the new Base Force, as the Army reduced its presence in Europe. Even as USAREUR inactivated some units and shipped out others, it carried out PROVIDE COMFORT in support of the Kurdish population in northern Iraq and deployed troops to Kuwait and Saudi Arabia as a deterrent to further Iraqi attacks. USARPAC consolidated all of its garrison and support elements under a new U.S. Army, Hawaii, and conducted combined training exercises in Thailand, the Philippines, Japan, Australia, and Korea. U.S. forces in Korea turned over more responsibilities for the defense of the peninsula to the South Koreans, while USARSO carried out training in Latin America, continued the process of transferring the Panama Canal to Panama, and provided humanitarian assistance to Haitian refugees at Guantanamo Bay, Cuba.

At home, the Army was also busy. The Army moved to centralize its intelligence operations at a higher level. Responding to a Bush administration initiative, the Army brought back its nuclear weapons to the continental United States by July 1992 and also worked on new counters to biological and chemical warfare. Troops from the 7th Infantry Division joined National Guardsmen in restoring order to Los Angeles after riots, and Army personnel provided

humanitarian relief and protected property in the aftermath of Hurricanes Andrew and Iniki.

With the decline in the size of the active Army, the reserve components were even more important to the Total Army in the accomplishment of its mission. The National Guard and Army Reserve endured sizable cuts but felt that they retained high-quality personnel. The Army increased to four the number of reserve brigades used to round out active divisions, and reserve planners developed various unit packages to support contingencies. Although reserve units still lacked equipment essential for their mission, they continued to make major progress in modernization, many adding M1A1 and M1A2 Abrams tanks, M3 Bradley fighting vehicles, and AH-64 Apache helicopters.

In response to the problems experienced during DESERT STORM, the Army, through BOLD SHIFT, emphasized better integration of active and

reserve units, operational readiness evaluations for reserve units, improved specialty and leader training, and achievable premobilization training standards. STANDARD BEARER units of the Army National Guard, the units scheduled first for deployment, received special priority for resources and training. For the first time, Troop Program Units joined the scheduled training rotation at the Joint Readiness Training Center. In addition to training, reservists provided relief to victims of natural disasters in Florida, Louisiana, Hawaii, and Guam. They also participated in the war against drugs by supplying training, intelligence, and logistical support.

During FY 1992, the Army research, development, and acquisition community had to deal with the complexities resulting from declining procurement budgets, reorganization, and the challenges of continuous modernization. The Army Science Board carried out studies on land combat identification and command and control in mobile warfare, and the Army Research Institute conducted a study to determine the factors underlying success of different units at the National Training Center. Meanwhile, the Board on Army Science and Technology conducted studies on future technologies and established a committee to review the disposal program for chemical agents and munitions. Civil works research focused on such areas as erosion control, wetlands, magnetic levitation, and construction, while medical research sought new vaccines against AIDS and new counters against nerve agents. During the year, researchers carried out the world's first test of a vaccine against waterborne hepatitis A in Thailand. At the same time, the Army was pursuing continuous modernization for each class of weapon systems, whether it was a new system in production, an upgrade in progress, or a replacement system in development.

To meet the challenge of declining personnel strengths and shrinking financial resources, the Army made several changes in organization and management procedures and relied more fully on automation. During the fiscal year, it formed a new Space and Strategic Defense Command and a new Program Executive Officer for Global Protection Against Limited Strikes. Under Lab 21 and Project RELIANCE, the Army consolidated numerous laboratories and created a new Army Research Laboratory as its center for work on combat materiel. The Army proceeded with the implementation of BRAC decisions, closing 58 installations under BRAC I and returning 217 installations outside the continental United States to host nations under BRAC III.

Army managers approved Total Army Quality as the Army's management philosophy and prepared a strategy that would implement the new approach throughout the Army. Army financial managers shifted functions to Department of Defense jurisdiction; established the principle of users paying for services; sought better use of nonappropriated funds for

morale, welfare, and recreation; and attempted to ensure management control of the Chemical Stockpile Disposal Program. The Army also reviewed its existing processes and organization for information management and instituted a migration to the Open Systems Environment. Such steps were especially critical given increasing automation of Army personnel and logistics functions.

Personnel cuts during FY 1992 especially affected active duty and civilian personnel. The Army conducted several programs to induce voluntary departures, including the Voluntary Early Transition, the Voluntary Separation Incentive, the Special Separation Benefit, the Voluntary Early Release/Retirement Program for officers, and the Voluntary Early Retirement Authority for civilians. These programs, along with the involuntary Selective Early Release Board and Reductions in Force, were so successful that the Army actually encountered personnel shortages in several key MOSs and grades. To meet the need, the Army moved up dates for promotion boards and gave higher priority on key personnel to units scheduled for early deployment.

Facing the prospect of a smaller force, the Army consolidated several career management fields and placed more emphasis on generalists as opposed to specialists. For the first time, the Army commissioned physician assistants, and it also expanded the number of officer positions in the Army Acquisition Corps. In addition to these steps, the Army developed a sexual harassment/equal opportunity action plan, established a leader development process for warrant officers, and mandated attendance at the Basic Supervisory Development Course and the Leadership Education and Development Course for military and civilian supervisors of civilian employees.

Army logistics during FY 1992 went through a period of great ferment with the introduction of automation, the return of personnel and equipment from Southwest Asia, and changes as a result of the Army's shift from forward deployment to a strategy based more on the continental United States. Army logisticians returned, repaired, and reconstructed war materiel from Southwest Asia and moved units, equipment, and personnel and their dependents from Europe back to the continental United States. They also sought improvements in Army support systems, whether improving the tracking of items through computers, introducing ways of filling requisitions in the most cost-effective manner possible, or instituting reforms based on the principle of users paying for services.

To improve sustainment, the Army increased the number of active component CS/CSS units to sustain rapid deployment from the continental United States and stationed them near the units they supported. It reorganized and consolidated war reserves and operational stocks to eliminate excesses and achieve centralized control, while also seeking to reduce the

surplus of spare parts. In general, the Army sought to reshape its installation structure and business procedures along more entrepreneurial lines. Fiscal year 1992 was a banner year for the security assistance program, as weapons sales to allied and friendly nations increased and twelve former Eastern Bloc nations joined the program.

The Army's support services played a critical role in a year of downsizing. During the fiscal year, the Army Career and Alumni Program, which aided departing soldiers and civilians with transition assistance and job search training, became fully operational, and the New Careers in Education program placed departing soldiers as teachers and administrators in the nation's schools. The Army tightened its program on alcohol and drug abuse prevention and control, separating chronic abusers from the service and adding more specific and sensitive tests to detect other violators. Army installations renovated facilities and improved customer service as part of the Army Communities of Excellence Program, and Army child care facilities earned praise for their compliance with the Military Child Care Act. But Army efforts to build new housing and maintain, repair, and renovate older buildings were hampered by limited funds. Preventive medicine experts investigated possible medical problems arising from the Gulf War and educated Army personnel regarding the AIDS epidemic. During the fiscal year, Task Force Russia supported the U.S./Russia Joint Commission on POWs/MIAs, and the Army also worked with the Senate Select Committee on POW/MIA Affairs. Simultaneously, the Army was taking steps to revise regulations on military justice, adopt a new field feeding system, and increase the efficiency of its morale, welfare, and recreation system.

In addition to its other functions, the Army in FY 1992 continued to perform several tasks not generally associated with its primary mission. Almost half of the Corps of Engineers' budget for the fiscal year supported civil works projects. The COE streamlined procedures on permits, worked alongside the Environmental Protection Agency to close loopholes in the Clean Water Act, maintained intracoastal and inland navigation systems, and worked on the reconstruction of Kuwait after DESERT STORM. Litigation involving the Judge Advocate General focused on procurement fraud, racial discrimination, sexual harassment, privacy issues, and bankruptcy cases. The Inspector General answered congressional

inquiries regarding Army protection of whistleblowers and investigated such issues as reserve component training and the efficiency of the Army and Air Force Exchange Service, the Army Sponsorship Program, and special access programs. Army energy experts made strong efforts to reduce energy consumption. The Army also tried to create more opportunities for small businesses and minority firms to produce products for the Army and to improve civilian marksmanship. Army historical agencies

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took part in the commemoration of the 50th anniversary of World War II and worked to obtain a site for the future Army museum.

As FY 1992 came to a close, the Army faced multiple challenges. The drawdown had only just begun. For the foreseeable future, reductions in force structure, personnel, and installations would be a fact of life for the Army. It could thus count on less resources even as it attempted to cope with rapidly evolving technology and a turbulent world that would continue to demand active U.S. involvement, often in remote corners of the globe. But during FY 1992, the Army took many steps necessary to adjust to this changing environment. By shaping a smaller but highly mobile, modernized, and flexible force of motivated soldiers based in the continental United States, the Army leadership expected to continue to meet its responsibilities to the nation during the last years of the twentieth century.

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Glossary

AAC	Army Acquisition Corps
AAFES	Army and Air Force Exchange Service
ACAP	Army Career and Alumni Program
ACES	Army Continuing Education System
ACOE	Army Communities of Excellence
ACTS	Advanced Communications Technology Satellites
ADA	Air Defense Artillery
ADAPCP	Alcohol and Drug Abuse Prevention Control Program
AECP	AMEDD Enlisted Commissioning Program
AEN	Army Employer Network
AFH	Army Family Housing
AFQT	Armed Forces Qualification Test
AGR	Active Guard Reserve
AIT	Advanced Individual Training
ALO	Authorized Level of Organization
AMAP	Army Mobilization Action Plan
AMC	Army Materiel Command
AMEDD	Army Medical Department
AMOPES	Army Mobilization and Operations Planning and Execution System
AMSC	Army Management Staff College
AMSC	Army Medical Specialist Corps
ANCD	Army Nuclear Capabilities Drawdown
ANMD	Army National Missile Defense
APM	Army Pre-positioned Materiel ship
APT	Army Personnel Testing Program

AR	Army Regulation
ARAPAHO	Army Pre-positioned Sustainment Maintenance Facility
ARCOM	Army Reserve Command
ARL	Army Research Laboratory
ARNG	Army National Guard
ARPERCEN	Army Personnel Center
ARR	Annual Recurring Requirements
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ASA (FM)	Assistant Secretary of the Army for Financial Management
ASA (ILE)	Assistant Secretary of the Army for Information, Logistics, and Environment
ASA (MRA)	Assistant Secretary of the Army for Manpower and Reserve Affairs
ASA (RDA)	Assistant Secretary of the Army for Research, Development, and Acquisition
ASARC	Army Systems Acquisition Review Council
ASB	Army Science Board
ASBCA	Armed Services Board of Contract Appeals
ASD (HA)	Assistant Secretary of Defense for Health Affairs
ASMP	Army Strategic Mobility Program
ASTRO	Army Space and Technology Research Organization
ATACMS	Army Tactical Missile System
ATBMP	Army Technology Base Master Plan
ATCCS	Advanced Tactical Command and Control System
ATCOM	Aviation and Troop Command
ATMD	Army Theater Missile Defense
AVIM	Aviation Intermediate Maintenance
BASOPS IDB	Base Operations Integrated Database
BAST	Board on Army Science and Technology
BCTP	Battle Command Training Program

BD	Biological Defense
BES	Budgeted End Strength
BMAR	Backlog of Maintenance and Repair
BRAC	Base Realignment and Closure
C3I	Command, Control, Communications, and Intelligence
CAA	Army Concepts Analysis Agency
CAM	Catchment Area Management
CAPSTONE	A program aligning reserve component units scheduled for Europe with their wartime chain of command
CATS	Combined Arms Training Strategy
CATT	Combined Arms Tactical Trainer
CAX	Computer-assisted exercises
CCP	Coordinated Care Program
CDC	Child Development Center
CDS	Child Development Services
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CECOM	Communications-Electronics Command
CFE	Conventional Forces in Europe
CFO	Chief Financial Officer
CFP	Contingency Force Pool
CFSC	Army Community and Family Support Center
CGSC	Command and General Staff College
CHAMPUS	Civilian Health and Medical Program of the Uniformed Services
CINC	Commander in Chief
CINCEUR	Commander in Chief, Europe
CJCS	Chairman, Joint Chiefs of Staff
CLDAP	Civilian Leader Development Action Plan

CMAOC	Casualty and Memorial Affairs Operations Center
CMF	Career Management Field
CMTC	Combat Maneuver Training Center
COE	Army Corps of Engineers
COHORT	Cohesion, Operational Readiness, and Training
COTS	Commercial Off-the-Shelf
CPU	Chemical Protective Undergarment
CPX	Command Post Exercise
CRB	Cost Review Board
CRDEC	Chemical Research, Development, and Engineering Center
CRI	CHAMPUS Reform Initiative
CSC	Command and Staff College
CS/CSS	Combat Support/Combat Service Support
CSM	Command Sergeant Major
CTCP	Consolidated Ticket Consignment Program
DAC	Disaster Assistance Center
DBDU	Desert Battle Dress Uniform
DBOF	Defense Business Operations Fund
DCSIM	Deputy Chief of Staff for Information Management
DCSLOG	Deputy Chief of Staff for Logistics
DCSOPS	Deputy Chief of Staff for Operations and Plans
DCSPER	Deputy Chief of Staff for Personnel
DCSPI	Deputy Chief of Staff, Personnel Integration
DEPMEDS	Deployable Medical Systems
DFAS	Defense Finance and Accounting Service
DHP	Defense Health Program
DLA	Defense Logistics Agency

DMAC	Defense Medical Advisory Council
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DMAT	Disaster Medical Assistance Team
DMR	Defense Management Review
DMRD	Defense Management Report Decisions
DOD	Department of Defense
DOIM	Director of Information Management
DPM	Direct Procurement Method
DPP	Dedicated Procurement Program
DSCS	Defense Satellite Communications System
EDA	Excess Defense Articles
EDAS	Enlisted Distribution and Assignment System
EOC	Emergency Operations Center
EOH	Equipment-on-Hand
EREC	Enlisted Records and Evaluation Center
ERP	Excellence in Retention Program
FA	Functional Area
FAA	Foreign Assistance Act
FAA	Functional Area Assessment
FCC	Family Child Care
FEMA	Federal Emergency Management Agency
FHTV	Family of Heavy Tactical Vehicles
FM	Field Manual
FMFP	Foreign Military Financing Program
FMS	Foreign Military Sales

FMTV	Family of Medium Tactical Vehicles
FORSCOM	Forces Command
FTX	Field Training Exercise
GSA	General Services Administration
GTC	Gateway to Care
HAP	Homeowners Assistance Program
HLPS	Heavy-Lift Pre-positioned Ship
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HQDA	Headquarters, Department of the Army
HSC	Health Services Command
IAMS	Integrated Army Mobilization Study
I-CASE	Integrated Computer Aided Software Engineering
IEW	Intelligence and Electronic Warfare
IMA	Individual Mobilization Augmentee
IMA	Information Management Area
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IMET	International Military Education and Training
INS	Immigration and Naturalization Service
INSCOM	Intelligence and Security Command
IRR	Individual Ready Reserve
ISC	Information Systems Command
ISM	Integrated Sustainment Maintenance
ISM	Installation Support Modules
ISO	International Standards Organization
ITO	Installation Transportation Office

JCALS	Joint Computer-aided Acquisition and Logistic Support
JDAL	Joint Duty Assignment List
JLSC	Joint Logistics System Center
JPME	Joint Professional Military Education
JROC	Joint Requirements Oversight Council
JROTC	Junior Reserve Officer Training Corps
JRTC	Joint Readiness Training Center
JSC	Joint Service Committee
JSCBD	Joint Service Committee on Biological Defense
KERO	Kuwait Emergency Recovery Office
LAM	Louisiana Maneuvers
LANTCOM	U.S. Atlantic Command
LASH	Lighter Aboard Ship
LDS	Lightweight Decontamination System
LMI	Logistics Management Institute
MACOM	Major Command
MCA	Military Construction, Army
MCM	Manual for Courts-Martial
MDW	Military District of Washington
MEDCOM	Army Medical Command
MEL	Military Education Level
MHSS	Military Health Services System
MI	Military Intelligence
MLRS	Multiple Launch Rocket System

MOS	Military Occupational Specialty
MPT	Manpower, Personnel, and Training
MRD	Mandatory Retirement Dates
MRE	Meals, Ready-to-Eat
MRS	Mobility Requirements Study
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MTF	Military Treatment Facilities
MTOE	Modified Table of Organization and Equipment
MWR	Morale, Welfare, and Recreation
NAF	Nonappropriated Funds
NASA	National Aeronautics and Space Administration
NATO	North Atlantic Treaty Organization
NBC	Nuclear, Biological, Chemical
NCE	New Careers in Education program
NCO-ER	Noncommissioned Officer Evaluation Report
NET	New Equipment Training
NGB	National Guard Bureau
NOF	Notional Force
NTC	National Training Center
OCAR	Office of the Chief, Army Reserve
OCS	Officer Candidate School
ODCSLOG	Office of the Deputy Chief of Staff for Logistics
ODCSOPS	Office of the Deputy Chief of Staff for Operations and Plans
OMA	Operation and Maintenance, Army
OMB	Office of Management and Budget

OPA	Other Procurement, Army
OPFOR	Opposition Force
OPTEMPO	Operational Tempo
ORE	Operational Readiness Evaluation
ORE	Operational Readiness Exercise
OSC	Objective Supply Capability
OSD	Office of the Secretary of Defense
OSDPIP	Office of the Secretary of Defense Productivity Investment Program
OSE	Open Systems Environment
OTJAG	Office of The Judge Advocate General
OTSG	Office of The Surgeon General
PA	Physician Assistant
PAAB	PERSCOM Acquisition Accession Board
PCTIP	Panama Canal Treaty Implementation Plan
PECIP	Productivity Enhancing Capital Investment Program
PEO	Program Executive Officer
PEO-GPALS	Program Executive Officer for Global Protection Against Limited Strikes
PERMS	Personnel Electronic Records Management System
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PERSCOM	U.S. Total Army Personnel Command
PLL/ASL	Prescribed Load List/Authorized Stockage List
PM	Program Manager
PMAD	Personnel Management Authorization Plan
PMOS	Primary Military Occupational Specialty
POM	Program Objective Memorandum
POMCUS	Pre-positioning of Materiel Configured to Unit Sets
POV	Privately Owned Vehicle

PPBS	Plans, Programs, and Budgeting System
PPG	Personnel Planning Group
PROFIS	Professional Officer Filler System
QRIP	Quick Return on Investment Program
RA	Regular Army
RCAS	Reserve Component Automation System
RCP	Retention Control Point
RDA	Research, Development, and Acquisition
RDEC	Research, Development, and Engineering Center
RDT&E	Research, Development, Test, and Evaluation
REFORGER	Return of Forces to Germany
REMR	Repair, Evaluation, Maintenance, and Rehabilitation
RO/RO	Roll-on/Roll-off
ROTC	Reserve Officer Training Corps
RPMA	Real Property Maintenance Activities
RRF	Ready Reserve Force
SBIS	Sustaining Base Information Service
SDT	Self-Development Test
SEP	Soldier Enhancement Program
SERB	Selective Early Retirement Board
SETAF	Southern European Task Force
SFDLR	Stock Funding of Depot Level Reparables
SGM	Sergeant Major
SIDPERS-3	Standard Installation/Division Personnel System
SIMS-X	Selected Item Management System-Expanded

SL	Skill Level
SLA	Strategic Logistics Agency
SOF	Special Operations Forces
SQT	Skill Qualification Test
SOUTHCOM	U.S. Southern Command
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SRB	Selective Reenlistment Bonus
SSB	Special Separation Benefit
SSC-NCR	Soldier Support Center-National Capital Region
SSDB	Small and Small Disadvantaged Business
SSF	Single Stock Fund
STA	Sparing to Availability
STAR	Strategic Technologies for the Army
STIR	Special Technical Inspection and Repair
TAA	Total Army Analysis
TABS	Total Army Basing Study
TADSS	Training Aids, Devices, Simulators, and Simulation
TAIM	Total Army Inventory Management
TAMMIS-MEDSUP	Theater Army Medical Management Information System-Medical Supply
TAQ	Total Army Quality
TAV	Total Asset Visibility system
TDA	Table of Distribution and Allowances
TDY	Temporary Duty
TIG	The Inspector General
TIPA	Treaty Implementation Plan Agency
TMA	Training Mission Area

TOE	Table of Organization and Equipment
TOW	Tube-launched, Optically tracked, Wire command link-guided
TPU	Troop Program Units
TQM	Total Quality Management
TRADOC	Training and Doctrine Command
UAD	Update Authorization Document
ULLS-A	Unit Level Logistics System-Air
UCMJ	Uniform Code of Military Justice
USAAA	U.S. Army Audit Agency
USAEHA	U.S. Army Environmental Hygiene Agency
USAHFPA	U.S. Army Health Facility Planning Agency
USAID	U.S. Agency for International Development
USAIGA	U.S. Army Inspector General Agency
USAISC	U.S. Army Information Systems Command
USAMMA	U.S. Army Medical Materiel Activity
USAMRDC	U.S. Army Medical Research and Development Command
USAPIC	U.S. Army Personnel Integration Command
USAR	U.S. Army Reserve
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USAREC	U.S Army Recruiting Command
USAREUR	U.S Army, Europe
USARHAW	U.S. Army, Hawaii
USARPAC	U.S Army, Pacific
USARSO	U.S. Army, South
USARSPACE	U.S. Army Space Command
USASDC	U.S. Army Strategic Defense Command
USASOC	U.S. Army Special Operations Command

USASSDC	U.S. Army Space and Strategic Defense Command
USFK	U.S. Forces, Korea
USTRANSCOM	U.S. Transportation Command
VCSA	Vice Chief of Staff, Army
VERA	Voluntary Early Retirement Authority
VERRP	Voluntary Early Release/Retirement Program
VET	Voluntary Early Transition
VSI	Voluntary Separation Incentive
WBR	Whole Barracks Renewal
WOLDAP	Warrant Officer Leader Development Action Plan
WOMA	Warrant Officer Management Act
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Organization of the Department of the Army



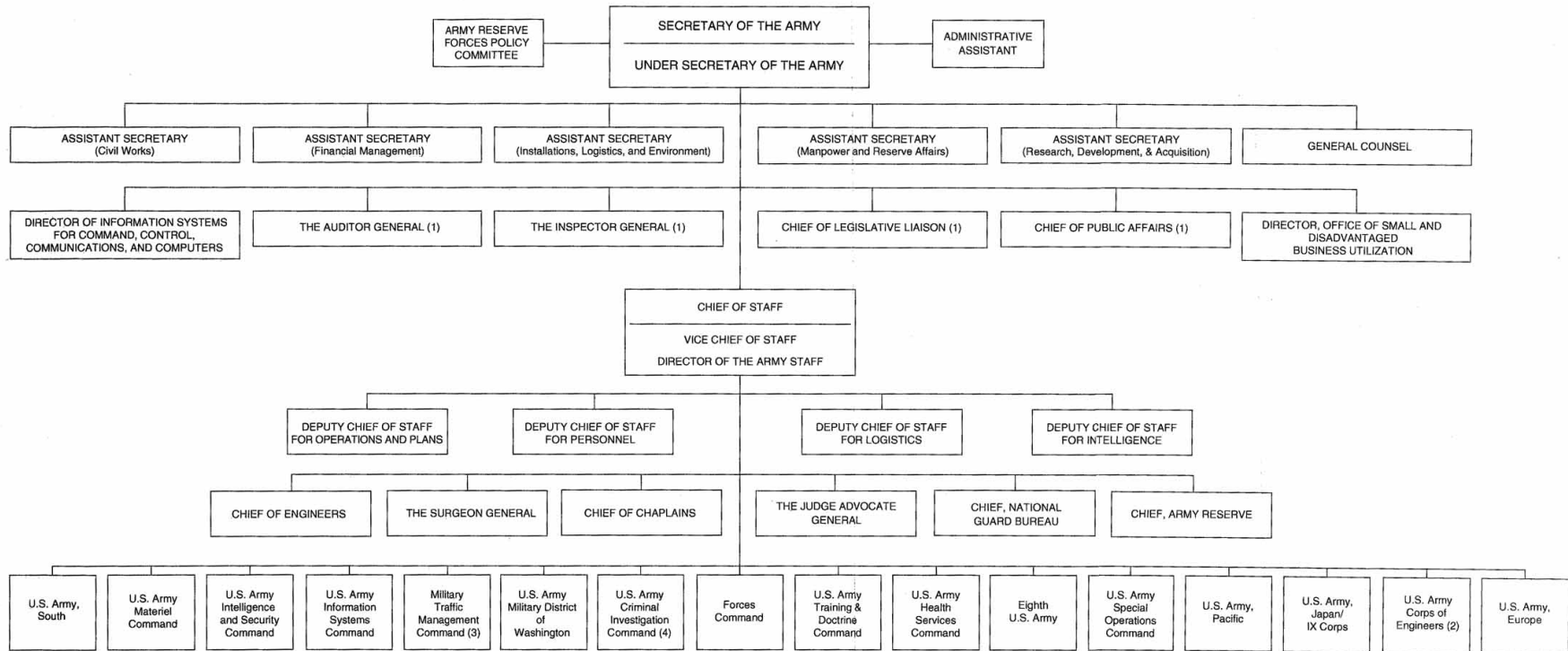
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Appendix. Organization of the Department of the Army



- (1) Reports directly to the Secretary of the Army and is responsive to the Chief of Staff.
 (2) Commander, USACE, reports through the Assistant Secretary of the Army (Civil Works) to the Secretary of the Army on civil works matters.
 (3) Reports directly to the Assistant Secretary of the Army (Installations, Logistics, and Environment) on operational matters.
 (4) Reports directly and concurrently to the Secretary of the Army and the Chief of Staff on criminal matters.

As of September 1992