AF Posture Statement 2000

The Air Force Fiscal Year 2001 budget, though constrained, is a balanced, integrated, carefully crafted plan that supports our transformation as an Expeditionary Aerospace Force. With your continued support, it will:

Put our people first. We can never lose sight of the fact that it is our great people — active-duty, guard, reserve and civilian — who make the Air Force the world's premier aerospace force. This budget continues our commitment to improving pay, benefits, and quality of life. It also contains increased emphasis on improving recruiting and retention to ensure that we are growing the force of the future.

Emphasize readiness. The Air Force has been in a constant state of high operations tempo since the end of the Cold War. We are smaller than we have ever been, yet tasked at a level many times the Cold War pace. The stress is showing. By committing to better organization, more money for spare parts, and increased training, we will halt the downward readiness trends of the late 1990s.

Continue our carefully balanced, time-phased modernization program. There is no single modernization program that is a "silver bullet" for the Air Force. Instead, we are committed to modernizing existing systems, where it makes sense and provides the needed capability. Likewise, we must purchase new systems to ensure we maintain our ability to provide the full spectrum of aerospace capability. We continue to believe that the key to success is an integrated system of systems. That will provide the global reach, global power, and global vigilance that make the Air Force a premier instrument of national defense and national security. Our FY01 modernization plan touches every part of the Air Force, including space, mobility, surveillance, power projection and information superiority, just to mention a few.

Without the steadfast support of the President and Congress, the stunning successes of the last several years would not have been possible. We are a combat-proven, mission-focused, decisive fighting force for America. With your support we will remain so.

F. WHITTEN PETERS
SECRETARY OF THE AIR FORCE

MICHAEL E. RYAN, GENERAL, USAF
CHIEF OF STAFF

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Introduction

The United States Air Force enters the 21st Century as the most powerful, swift and flexible military force in the world. Aerospace power was born in America with the Wright brothers and was proven decisive in combat by American commanders who understood the imperative of dominating the skies: Mitchell, MacArthur, Eisenhower, Nimitz, Arnold, and many more. Aerospace power became America's unique asymmetric advantage.

For more than fifty years, the Air Force has been the nation's primary provider of aerospace power. Today, aerospace power gives the nation a strategic advantage and is its most rapid instrument of military choice. It is aerospace power that has made it possible for our nation to lead critical security commitments, while remaining ready to engage rapidly anywhere on the globe.

Everything we do in joint military operations requires control of air and space. Without aerospace power, our joint forces could not effectively deploy, fight, or win. With aerospace power, joint forces can secure our objectives quickly with minimum loss of life. We are a combat- proven, mission-focused, decisive fighting force. The following paragraphs outline how your Air Force, with continued support from Congress, will organize, train, equip, and operate in the coming years.

Aerospace Power in the Geostrategic Environment

World events over the past decade have highlighted the value of aerospace forces. They were the conclusive instruments of military power in the three major conflicts of the last decade—the Gulf War, Bosnia-Herzegovina and Kosovo. Throughout the 1990s, aerospace power delivered results not only in combat but in many different types of operations: providing presence around the world to shape the security environment; flying relief supplies into areas struck by disaster; delivering aid to nations and peoples in need; patrolling no-fly zones over Iraq and Bosnia-Herzegovina; providing awareness with space assets; and standing nuclear alert. These are just a few of the examples of how America has used its aerospace power.

Today, our national security policy relies on the steady engagement of air forces in several regions. While the other services use their aviation arms primarily to assist their principal forces, the Air Force provides the essence of our nation's aerospace power.

The Air Force is preparing for a range of potential threats that will vary in character and intensity as the 21st century unfolds. A hostile state actor, weapons of mass destruction, cyberterrorism and a heightened need for defense of the American homeland: all are possible challenges in the future. Security can be fragile. Tomorrow's weapons have the potential to be devious and destructive. New threats can emerge quickly, and our ability to counter them must never be taken for granted.

Given the uncertainty and diversity of these threats, aerospace power, with its unique capabilities, will be more important than ever in carrying out America's security goals. First, aerospace power is far-reaching. Our aircraft can reach any point on the globe within hours, with the flexibility to supply relief or to produce combat effects. Second, it is a lethal

fighting force. We can control enemy maneuver in the battlespace and find and destroy targets with great precision. Third, aerospace power is vigilant. Airmen link aircraft, satellites and information systems to create global situational awareness. Vigilance takes many forms, from security forces patrolling the base perimeter to nuclear forces on alert. These three characteristics combine to make aerospace power a highly flexible, powerful military force — indispensable to our nation.

Our Focus

The United States Air Force defends the United States and protects its interests through aerospace power. Our fundamental capability is to dominate the aerospace realm to ensure freedom from attack, freedom to maneuver and freedom to attack. This capability stems from our core competencies: aerospace superiority, global attack, precision engagement, information superiority, rapid global mobility, and agile combat support. Our heading stays constant: the Air Force vision of global reach, global power and global vigilance is the guiding principle behind our strategic plan and budget programs for aerospace power.

Aerospace power cannot be defined just as fighters, bombers or satellites. Aerospace power comes from talented, trained people employing a combination of systems and capabilities. It starts with our ability to operate out of austere bases—and that requires constant attention to the fundamentals of food, shelter, force protection, communications, airfield and mobility operations, and civil engineering. It includes the world's most capable air mobility assets and infrastructure, empowering the global reach capability without which forces and equipment could not move onto forward bases. At the next level, aerospace power requires Intelligence, Surveillance and Reconnaissance (ISR) assets in space and in the air that are interoperable and that can communicate information back to centers where data can be fused and commanders can use that fused information to command their forces and the battlespace. The constant requirement for data, communications, and systems that turn data into information, in turn, requires capabilities that run the gamut from prediction of solar weather to satellite command and control to computer network defense. What makes the Air Force such a flexible and effective tool is our focus on maintaining a balanced aerospace force that provides the full range of capabilities required to put bombs on target or to rapidly deliver humanitarian supplies.

In one contingency, our primary contribution may be C-17s delivering relief supplies. But as important as the C-17 is to this operation, it would be of little use without the material handling equipment that allows it to be loaded and unloaded. Moreover, relief missions depend on layers of support from information systems, communication satellites, weather, navigation, and air refueling that come together to form an Air Force unique capability: an air bridge. Similarly, the B-2 dropping the Joint Direct Attack Munition (JDAM) is an outstanding capability. But the B-2 cannot perform that mission without targeting data, which depends on our ISR and communications infrastructure, as well as the Global Positioning System (GPS) which, in turn, requires a supporting infrastructure of space launch ranges and launch vehicles.

Our Fiscal Year 2001 budget program is based on sustaining our decisive fighting force through a balanced program that pays attention to all the systems required to perform our mission, modernizes our systems, takes advantage of innovation, and prepares for the

challenges of the future. Most importantly, we are providing better support for our most valuable assets — our people.

The Air Force Leads Defense Transformation

The Air Force's legacy of organizational and operational flexibility leave it prepared for the challenges of the 21st Century. As security goals shifted in the 1990s, we vaulted ahead with two major transformations that greatly increased our decisive power projection capabilities. These transformations—one organizational, the other a result of the ongoing revolution in military affairs, form the foundation of our strategic plan.

The Air Force has always been an expeditionary force: going "over there," to Europe, the Pacific, Southeast Asia, or the Persian Gulf region to join with allies and defeat adversaries. Since the early 1990s, the Air Force has downsized by more than one-third and cut overseas basing by two-thirds. We retired older Cold War force structure and emerged as a lighter, leaner, and more lethal force. Bombers designed to carry nuclear weapons now carry precision-guided conventional munitions. A tanker force designed to support nuclear operations became the backbone of overseas force deployment. Never in history have aerospace forces demonstrated their flexibility with greater clarity.

But during the downsizing, contingency operations multiplied and organizational strain emerged. Soon the Air Force was engaged in many times as many operations as during the Cold War — we were 40% smaller than our 1987 levels, but much busier. Like marathon runners, we had to find the right pace. First, the Air Force transformed itself into an expeditionary aerospace force configured for the full spectrum of global operations. In response to seemingly irreconcilable stresses, the Air Force increased its expeditionary capabilities so that we could both deploy forces faster, and be able to keep up a constant presence, for years when necessary, to fulfill long-term multi-national commitments. We did this using forces that were structured to fight and win two major theater wars.

The new Expeditionary Aerospace Force (EAF) concept enables the Air Force to meet the Nation's increased demand for deployed forces. Without this reorganization, we could not sustain that demand with the force levels we have today. EAF allows us to provide tailored forces to regional commanders, while keeping the force trained and ready to meet major commitments. But most importantly, it gives our people more predictable deployment schedules, adding needed stability to their family lives and career paths. Equally important, EAF allows us to make more effective use of the Guard and Reserve, reducing the operations tempo for all our forces. The new concept works by designating ten packages of our forces - known as Aerospace Expeditionary Forces (AEFs) - and rotating two at a time to be on call or deploy to regional hotspots. It also provides for five rotating mobility headquarters units, to meet demands for airlift. The reorganization required for this transition is largely complete. However, we must continue exercises and initiatives to improve our expeditionary capability by reducing deployment times, improving communications and en route planning, streamlining equipment loads and honing our ability to operate from austere locations.

The second major transformation emerged in the last decade when the Air Force became a stealth-enhanced, all-weather, day/night, precision force. In the 1990s, Americans became accustomed to seeing gun camera video of precision-guided bombs hitting buildings, bridges and tanks. Laser-guided bombs debuted in the early 1970s, but in 1991 just 9% of the

weapons delivered by aircraft in DESERT STORM were precision weapons, and only the F-117, with two bombs on board, was able to penetrate heavy air defenses to drop these weapons. Just four years later, in 1995, more than 90% of the bombs dropped during Operation DELIBERATE FORCE were precision-guided weapons. In 1999, the stealthy B-2, flying from the United States, with 16 JDAMs on board hit multiple targets at night, in all kinds of weather in its combat debut over Kosovo and Serbia. In addition, B-52s fired GPS-guided Conventional Air Launched Cruise Missiles (CALCMs) hundreds of miles with great accuracy. Our fighter aircraft also dropped precision laser- guided bombs when weather permitted, and we were prepared to use laser designators from the Predator Unmanned Aerial Vehicle (UAV) to enable laser- guided bombs to be dropped through the clouds onto intended targets. In short, during Kosovo, all our attack platforms were able to hit multiple targets per sortie with great precision and much-reduced collateral damage. Past air commanders could only dream of the level of accuracy and reduced collateral damage that we achieved in Kosovo.

But the precision revolution also has costs. First, is the cost of integrating our new precision weapons onto our existing platforms — in many cases this requires extensive modifications. Now that we can bomb at night, we must also be able to fly safely at night, and that means installing night vision goggles and related lighting into all our combat aircraft. Precision weapons also require precise data on the location of targets — data that today must come from operations centers, satellites, UAVs, and supporting aircraft. This in turn drives a requirement for linking our aircraft together through high-speed digital networks and for better on-board targeting systems. We must also complete the integration of precision weapons into our Guard and Reserve aircraft — for EAF and precision to work, every strike aircraft must be capable of dropping precision ordnance. Finally, we must also invest in a suite of capabilities and training to shorten the time it takes to identify and strike targets from hours to minutes.

Your Air Force is funding the programs required to move these two critical transformations to the next level. As we move forward, we will continue to define the next steps in this revolution, and we will ensure that this transformation has many more cycles. Making our force stealthy will allow us to protect the force from evolving counter-air systems. New munitions, like the Small Smart Bomb and Low Cost Autonomous Attack Systems (LOCAAS) on stealthy platforms, will extend all-weather, day/night, and stand-off capabilities and will provide better capability against moving targets. They will also further minimize collateral damage and enable many more targets to be destroyed with a single sortie. Real time, adaptive targeting will combine with stealth and precision to take this revolution to a new level of combat power.

Both of these major transformations depend on increased aerospace integration. Air and space are seamless. We operate aircraft and spacecraft optimized for different environments, but the art of commanding aerospace power lies in integrating systems to produce the exact effects the joint force commander needs. To meet this need, we have changed our command organization, established a Space Warfare Center and an Aerospace Basic Course, and added space training to the air combat training given at our Weapons School. Most importantly, we are putting air and space operators into all our key commands and training courses. We are also investing in the information infrastructure to further link air and space platforms and testing those links in exercises and experiments. This year, we formed an Aerospace Integration Center at Nellis AFB, NV, where younger officers will learn how to employ and

command the totality of aerospace forces. Today, our innovations are bearing fruit -- the Air Force is an integrated expeditionary aerospace force.

Operation ALLIED FORCE: Total Success...and Forging the Way Ahead

Expeditionary operations and precision, all-weather strike converged in the spring of 1999 when NATO airpower compelled Yugoslavia to remove military forces from Kosovo. For the Air Force, Operation ALLIED FORCE was equivalent to a major theater war.

We proved expeditionary aerospace power was decisive. From the operational perspective, airmen damaged over 85% of critical infrastructure targets and attacked more than 850 Yugoslav army ground mobile targets (such as tanks, artillery pieces and trucks.) From the strategic perspective, aerospace power demonstrated NATO's might and resolve to Serbian leaders and in the end, Serbia complied with NATO demands.

The success of Operation Allied Force stemmed from our long-term investment in aircraft modernization and stealth, as well as a range of precision, near-precision and stand-off weapons; real-time communications; UAVs, space systems and ISR aircraft. We gleaned many insights from this conflict, and they are reflected in the budget and program now before the Congress.

- Expeditionary operations worked. With seeming ease, our airmen deployed to more than 20 expeditionary bases, bringing with them the force protection, logistics, sustainment, and communications systems that supported expeditionary combat operations.

- Reachback worked. Satellite communications enabled warfighters to reach back to the United States for real-time information and analysis, while avoiding the need to deploy such systems. By reaching back to CONUS for real-time support, theater forces were both leaner and better supported than if we had deployed CONUS forces and their equipment to Europe.

- Logistics worked. Depots surged and provided some 500,000 additional hours of work. With Air Mobility Command's worldwide express package delivery system, 93% of replacement parts got to forward expeditionary bases in Europe in an average of just 3.7 days. The engaged force averaged a 92% mission capable rate, much better than the peacetime average, because it had adequate parts and a full complement of experienced maintenance personnel.

- Technology worked. The many areas where technology gave us great advantages are the same areas that offer us the chance to modernize and improve our forces, gaining greater capability and saving dollars. The most promising of these are high priorities in this year's budget submission.

While individual weapons systems were hailed in the press for their capabilities, it was the successful integration of a broad range of weapons systems and supporting aircraft and space systems that won the day over Kosovo. While the world marveled at JDAM, the war could not have been won without the use of proven precision munitions guided by laser, electro-

optical, and inertial guidance systems. Success came from understanding how our weapons systems complemented each other and blended together into a balanced fighting force with capabilities that matched requirements. The synergy that resulted from combining air, space, and information operations allowed NATO to attack strategic, operational, and tactical targets, day and night, and often in adverse weather conditions, within hours of being identified. Having said all that, the greatest advantage we have is our outstanding people.

Decisive Fighting Force

Our airmen are a national treasure–they are a combat-proven, decisive, fighting force. They perform superbly wherever they are, whoever they are: the crew chief maintaining an F-16 for combat operations from Aviano AB, Italy; the C-17 loadmaster flying all over the world from Charleston, South Carolina; the captain and his wingman deploying from Alaska to Korea; the lieutenant flying satellites at Schriever AFB, Colorado; or officers standing alert at a Minuteman missile launch control center near Minot, North Dakota. Airmen are motivated, trained and ready to serve their country.

But their jobs are not easy. The uniformed Air Force of the year 2000 is the smallest in history: 358,000 active-duty members, plus 107,000 in the Air National Guard and 74,000 in the Air Force Reserve for a total of 539,000. On any given day, 90,000 airmen — almost one-sixth of the Total Force — are operating forward at 12 overseas bases and 16 forward operating locations.

The personal commitment of our men and women deserves an equal commitment from the Air Force, the Congress, and the American people. People are the key to the Expeditionary Aerospace Force, and we must do all we can to give our fighting forces what they need to carry out their mission.

People

People are our top priority. Because multiple deployments, crisis responses and aging equipment are stressing our manpower levels, we know we need to move additional manpower into the forces directly supporting the EAF. We moved 2,640 positions into the EAF in FY00, and this budget will move 3,180 additional authorizations in FY01. In addition, we recognize that unfilled manpower authorizations are of no use, so we have requested 300 new manpower positions for recruiters in FY01. We have also commissioned a major study of our end strength requirement and are prepared to request additional end strength, if needed.

Recruiting and retaining the highest quality men and women are among our greatest challenges in the current economic environment. To date, we have been able to recruit men and women of extremely high caliber — 99% have high-school diplomas. However, during Fiscal Year 1999, the Air Force fell short of its recruiting goal for the first time in 20 years. To meet this year's goal, we are increasing our recruiter force and launching new efforts in paid advertising.

Retention has also declined. The Air Force needs to retain highly trained people; but the high operations tempo, the strong civilian job market, and previous dissatisfaction with pay and retirement benefits have hurt both enlisted and officer retention.

The bottom-line for retention is that quality of life counts. The pay and compensation package Congress and the administration approved in 1999 and the restoration of 50% retirement benefits sent the right message. In addition, quality of life initiatives at the base level are essential. We realize that while we recruit individuals, we retain families. Especially with so many military members deployed, our programs in spouse employment, personal financial management assistance, childcare and youth centers, and commissaries and military exchanges are tangible commitments that make a difference in quality of life every day. Our Dormitory Master Plan to improve facilities is well underway, and we have also funded improvements to family housing through our Housing Master Plan. Additional DoD support for market-based basic allowance for housing (BAH) will reduce out-of-pocket expenses for our families assigned to high cost areas. TRICARE, which was fully implemented in June 1998, continues to receive our constant attention, with focus on customer satisfaction. While surveys indicate that satisfaction is increasing, we are a long way from complete success. Congress' continued support for our budget will sustain efforts in all of these areas.

Training

Several new programs are in place to train our force for 21st Century expeditionary and integrated aerospace operations. Deploying is now a way of life. The vast majority of our force never knew the garrison-style life of the Cold War Air Force. Accordingly, airmen recruits confront the real world during the new Warrior Week encampment at Lackland AFB, Texas, where they learn to operate from a bare-base site. At Maxwell AFB, Alabama, the Aerospace Basic Course extends to new officers and selected civilians a working knowledge of how the Air Force fights. As air, space and information systems become more sophisticated, the Air Force views ongoing training and education as the key to successful command and employment of aerospace power. New training systems like Distributed Mission Training place airmen in a synthetic battlespace, connected electronically to other airmen joining the simulation from bases in other states.

Readiness

Today's global environment demands that we be ready for operations from Kosovo to the South Pole. Our people are ready to meet this demand, but years of ongoing operations and difficult funding choices pose a threat to near-term readiness. Keeping that threat at bay is one of our major concerns and a major focus of this year's budget.

The average Air Force aircraft is 20 years old and even with the introduction of new airframes, the average age will be 30 years by 2015. Supply systems are pushed to their limits as Air Force units deploy continually. Overall, average mission capable rates for aircraft have declined due to the high operations tempo and shortages in parts, equipment, and skilled manpower. With the help of the administration and Congress, we provided obligation authority of $382M in FY99 for more spare parts inventory, and 100% funding for spares should reverse the shortage in 2000. We have put the brakes on declining engine readiness, but are still 25% short in some war readiness spares. Readiness remains an area of vital concern.

Modernization

The Air Force's modernization strategy has three aims: to maximize combat performance, build the force of tomorrow and exploit new technologies that enhance warfighting capability. The Air Force is sized and shaped to be flexible enough to perform several basic missions with the same force: sustaining deterrence, winning two major theater wars in close succession, rapidly responding to small scale contingencies, deploying for sustained peace enforcement operations, and conducting humanitarian operations. That places a premium on modern, flexible forces and people who know how to do their jobs in a variety of operations.

Our continued innovation begins with basic technological research and program integration. Today's nascent programs are tomorrow's joint warfighting capabilities. Our successes in Kosovo have demonstrated that great military value can come from integration of air and space systems. For this reason, we are doubling our current budgetary expenditures for space science and technology between FY99-05. This will further enhance our integrated capabilities and lower the cost of space support. For this reason too, we have established the Aerospace Command, Control, Intelligence, Surveillance and Reconnaissance Center (ASC2ISRC) charged with integrating our multiple data, intelligence, and analysis systems into a comprehensive Aerospace Operations Center, and the Space Battle Lab charged with finding innovative ways to combine space and air systems.

As we look to our future integrated aerospace force, however, we cannot forget that aerospace power is complex and is built on a broad infrastructure that must also be modernized in parallel with combat systems. To meet Commander In Chief (CINC) requirements, for example, our budget includes capabilities ranging from satellites to smart cards to the Red Horse civil engineers to new forms of combat rations. Tested and proven over time, this phased, balanced modernization program will ensure the future of your Air Force as the most powerful aerospace force in the world.

As the Air Force modernizes its capabilities, we are mindful that they must be interoperable with the other services and contribute to a wide range of capabilities for Joint Operations. For example, the Air Force provides strategic airlift for all ground forces, long-range aerial refueling for naval and allied aircraft in combat operations, and assured access to space for a range of Department of Defense missions. The array of systems and capabilities we supply is broader and more diverse than that required of other military forces. This is not because of the importance of the Air Force as an institution. It is because of the growing importance of aerospace power in our Nation's joint military operations.

Finally, we must always analyze emerging requirements. We face a mixture of threats, and our budget seeks funding to improve our capabilities against emerging threats, such as chemical and biological weapons, terrorism, and efforts to deny or exploit our mastery of space. We also have a program of experimentation that will show us how to improve our capabilities now and to stay aware of potential technology synergies and operational concepts that could be important in this new century.

Investing in the Core Competencies of Aerospace Power

It takes the full set of competencies—aerospace superiority, global attack, precision engagement, information superiority, rapid global mobility, and agile combat support—to

create aerospace power. These core competencies are operational capabilities that exploit the advantages of aerospace operations and enable many other types of joint operations. We cannot let down in any of these areas or we will put at risk our nation's ability to prevail in conflict. Therefore, we have taken a balanced approach to sustaining these core competencies in the FY01 budget request.

Aerospace Superiority is the control of air and space and the foundation of joint force, full spectrum dominance. From our nation's geographic position in the Western Hemisphere, we rely on aerospace superiority to protect our homeland and to enable us to deploy and to communicate to and from overseas theaters. Through aerospace superiority operations, we establish freedom from attack, freedom to maneuver and freedom to attack for all joint forces. Not since the Korean War have American soldiers been attacked by enemy aircraft. The Air Force is committed to ensuring that it never happens again so we are investing in modified systems, new systems and ISR platforms which support the core competencies, like upgrades to the F-15 and F-16 and the development of the F-22, as well as systems like the Space Based Infrared System (SBIRS), Airborne Laser (ABL), and Space Based Laser (SBL), to name a few.

Global Attack assets allow our nation to deter war and to strike any point on the earth's surface within hours of the decision to do so. Improvements to the B-2's low observability and integration of advanced weapons in the B-2, B-1 and B-52, as well as phased upgrades to the F-15, F-16, and F-117 aircraft and the development of the Joint Strike Fighter, will significantly enhance our global attack capabilities. Looking to the future, we are funding an experimental unmanned combat vehicle (UCAV) program.

Precision Engagement means precision strike of targets, in all weather, day or night. Beyond these combat applications, precision engagement also refers to our ability to get supplies and people to the right place at the right time to further policy goals. In our budget, new families of weapons are in the spotlight, including the Joint Air-to-Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW), JDAM and the Wind-Corrected Munitions Dispenser (WCMD). These programs have joint application and are the promise of a new transformation in power projection and decisive attack operations. In the area of precision support, we continue to fund all aspects of our mobility systems.

Information Superiority is the collection, control and exploitation of the information domain. An uninterrupted flow of data and knowledge of the battlespace are critical to success in current and future military operations. The Air Force meets many service and joint requirements with an information superiority architecture that is at the cutting edge of technology. This truly unique asset is a collection of ground, airborne and space platforms, sensors and systems that represents a key contribution to joint operations. Our evolutionary modernization plan focuses on support to the expeditionary warfighter and includes upgrades to many of these systems. Key among them are the Joint Surveillance Targeting And Reconnaissance System (JSTARS), AWACS and U-2 aircraft, as well as the Predator and Global Hawk UAVs. We're also taking a step toward migrating some capabilities to space with the National Reconnaissance Office and the Defense Advanced Research Projects Agency in our joint investment on the Discoverer II space-based radar.

Rapid Global Mobility is the ability to quickly position forces — from our own forces to those of our sister services or coalition partners — on or near any spot on the globe. Whether

employing on-scene Aerospace Expeditionary Wings or deploying contingency forces in response to a crisis, mobility assets make the difference in speed and stamina. Procurement of the full complement of C-17s, development of the CV-22, aggressive C-130 and KC-135 modernization and C-5 upgrade programs, as well as development of the Evolved Expendable Launch Vehicle (EELV) will ensure there are no gaps in our global mobility for the early 21st Century.

Agile Combat Support is the flexible and efficient sustainment of combat forces. As an expeditionary force, we are aiming for continued progress in reducing the deployment footprint, and speeding the delivery of the right supplies to the warfighter. To meet those needs, the Air Force is revamping its combat support systems. New logistics decision support tools and the Global Combat Support System are key enablers that will improve global logistics support.

Air Force Fiscal Year 2001 President's Budget Submission

Overall, the Air Force Budget continues to carefully integrate and balance competing priorities. The budget puts people first, emphasizes readiness, and continues to sustain relevant time-phased modernization and infrastructure programs. This plan continues our transformation and improvement as an Expeditionary Aerospace Force.

The Fiscal Year 2001 Air Force Budget sustains the people, readiness and modernization gains included in last year's Budget. In addition, we made some key investments that target specific capabilities or issues. For example, we've added funds for Basic Allowance for Housing (BAH), recruiting, and advertising to increase retention and ensure we have the people needed to improve historic mission readiness trends. Other additions such as Large Aircraft Infrared Countermeasures (LAIRCM) and JSTARS address specific operational requirements, while additional modest increases for Science and Technology help underpin our future core capabilities. We've also added resources to cover "fact of life" cost increases for Peacekeeper and Minuteman missiles, fuel, and consumption of spare parts.

However, our budget is filled with many of the same challenges as last year. This budget continues to provide resources to hold readiness levels at the Fiscal Year 2000 mission capable level. We need Congressional support for the FY01 budget to reverse losses to our mission capable levels that we endured in Fiscal Years 1998-1999. We are hopeful that the adds for BAH, recruiting, and advertising will help improve personnel readiness. Finally, the Air Force still faces a low infrastructure re-capitalization rate. Our backlog of infrastructure maintenance and repair continues to grow and total facility replacement remains on a 200 year cycle.

Summary

That is why we have crafted a carefully balanced plan that addresses the broad range of mission-critical needs of the service.

The security challenges of the 21st Century are difficult to predict. What we do know is that America will meet those challenges through joint operations built around decisive power

projection with aerospace forces. The United States Air Force has a unique and broad set of responsibilities to defend the United States, protect its interests, project power, extend a helping hand, and enable joint forces to carry out a full spectrum of operations. The fundamentals of aerospace power — fast, flexible air, space and information systems, skillfully commanded by aerospace warriors — will be the building blocks of 21st Century security. With Congressional support, the Air Force will maintain strategic deterrence, meet regional security challenges through expeditionary operations, support global information exchange, and engage with allies to reinforce multinational security measures. The inherent flexibility of aerospace power and the capabilities achieved through the synergism of aircraft, spacecraft and information systems will be the key components of national security against emerging threats. The United States is an aerospace nation, and your United States Air Force is now prepared and poised to meet the demands of ongoing global security commitments and must be in the future.

Security in the 21st Century depends in no small part on continuing to provide aerospace power that gives this nation its rapid global reach, decisive power and constant vigilance. Our world-class people make it work — they will always be our first priority. We are an expeditionary aerospace force configured for the long haul. We are continuing cycles of revolution as we transform into an information-rich, precision force and as we integrate aerospace systems ever closer together. We are an aerospace force that will grow ever more accustomed to operating in and from space. Our budget balances today's commitments with tomorrow's opportunities. We are prepared for the future and committed to serving the nation. We are a combat- proven, mission-focused, decisive fighting force. With your support, we will remain that way.

Combat Proven

The United States Air Force in 1999

Since the dawn of flight, America's airmen have answered the nation's calls. Last year was no different. Despite a huge drawdown over the past decade and a surge in contingency responses, last year was a time when the active duty Air Force was tasked more heavily (by percentage of force) than in either Desert Storm or Vietnam. The B-2 saw combat for the first time and the B-1 for the second. We fought an air war with the greatest degree of precision and integration ever seen in the history of aerospace power, while at the same time patrolling the air over Iraq and keeping the peace in Korea.

The Air Force played a dominant role in NATO's air war against Serbia. Operation Allied Force was the equivalent of a major theater war for the Air Force. We had over 500 aircraft and 44,000 people from our active and reserve components committed to this significant combat operation. Some of our airmen fought from home bases in the U.S. or overseas, but many deployed into 1 of the 21 expeditionary operating locations we created during the crisis.

For example, the international airport at Tirana, Albania was turned from a remote airfield into both a major humanitarian relief center and a combat location for Task Force Hawk in

less than 12 days. Five C-130s arrived from Ramstein AB, Germany on March 30th and by April 4th, the first C-17 was offloading outsized cargo for the Army's Apache helicopter unit. From the time our expeditionary airmen landed at the airport to the time combat helicopters landed in Tirana was only 9 days. By mid-April the airfield was fully operational, flying approximately 25 airlift sorties per day—carrying supplies and equipment for Task Force Hawk and humanitarian relief for Joint Task Force Shining Hope. Throughout this short time period, Air Force civil engineering units steadily improved airfield operations and living conditions by setting up water, sewer, electricity, roads, and critical runway repairs and upgrades. By the end of operations, 1,240 sorties would fly into Tirana.

During the 78 days of combat, 14 NATO nations flew 38,000 sorties and dropped 27,000 munitions against a wide range of Serbian targets in a small battlespace. Our Air Force provided nearly 50% of the coalition aircraft, dropped 70% of the munitions, and provided a large portion of the support aircraft. These support aircraft flew critical intelligence, surveillance, reconnaissance, and mobility missions which were key ingredients to the operation's success. During combat missions, hundreds of aircraft from many countries flew in close proximity over the Balkans; at some times, as many as five aerial refueling tracks were operational over the Adriatic at one time, competing for airspace with the tracks for ISR and command and control aircraft. The fact that none of our sorties resulted in a friendly mishap is testimony to the great leadership of our Air Component Commanders, the plans and operations skills of our Air Operations Centers, and the tremendous professionalism of United States and NATO airmen.

As in other conflicts, a key consideration during Allied Force was the minimization of both combat losses and collateral damage. Because the Air Force continued its legacy of innovation, most joint and coalition strike aircraft were able to employ precision weapons while staying above much of the ground threat. And because of the Air Force's investments in stealth and precision weapons, the B-2 and F-117 were able to strike safely at heavily defended, strategic centers of gravity far inside Serbia. In all cases, multiple targets could be hit with a single sortie. Our goal in this fight was no combat losses and no avoidable collateral damage — we achieved both. We had no combat losses and our actual collateral damage rate per sortie was .0005.

This incredibly low collateral damage rate resulted from the dedicated effort over several years to incorporate precision munitions across our fighting force and NATO's. More than 90% of the combat sorties delivered precision-guided munitions: B-2s used JDAM; F-15s, F-16s, and F-117s used laser-guided and stand-off precision munitions; B-52s fired Conventional Air Launched Cruise Missiles (CALCMs). Additionally, B-1 and B-52 aircraft dropped 10,000 non-precision munitions to close airfields and strike concentrations of opposing forces. These strike sorties were highly effective and successful because of our well-trained people and our unquestioned ability to control the air above the fight.

It wasn't just precision munitions, however, that made the outcome of Operation ALLIED FORCE so successful. The integration of manned and unmanned air and space weapon systems were truly merged in one aerospace domain where intelligence, surveillance, and reconnaissance from air or space platforms were step-for-step synchronized with our combat operations at all levels of warfare—from the strategic level to the tactical level. While much of the world watched the battle unfold through the lens of our precision munitions, it was the integration of weapon systems in the aerospace domain that was the force multiplier. From

communications and weather to navigation and combat assessment, this integration was pivotal to the successful outcome and validated our balanced investment strategy over the years.

Kosovo was such an overwhelming display of the capabilities of aerospace power that even our staunchest critics were heard to grudgingly admit that airpower could single-handedly win a war. While ALLIED FORCE was our single greatest combat achievement in 1999, it was not our only combat operation. Before the conflict in Kosovo, we built up our forces in the Persian Gulf to respond to increased Iraqi violations of United Nations resolutions. After that build-up, we unleashed that potent force during Operation DESERT FOX. It wasn't long after DESERT FOX that ALLIED FORCE began. Simultaneously, we've continued to respond to Iraqi aggression on almost a daily basis as we enforce the no-fly zones in Iraq. In Korea, our airmen stand ready to provide critical aerospace power on a moment's notice if required.

As you can see, 1999 was a very busy year for our expeditionary airmen as they've answered the nation's calls. But we're not just resting now, we're busily honing our warfighting operations and refining investment strategies given our lessons learned from the many combat operations.

Mission Focused

Our Role in National Security

The Air Force works with other governmental agencies to meet the national security challenges and the objectives laid out in the National Military Strategy. This requires us to shape and respond to today's security challenges and stand prepared for those of the 21st century.

Today's global security environment demands that the Air Force maintain a mission-ready force necessary to deter aggression, conduct ongoing contingency operations at a very high pace, meet a wide range of peacetime missions, and support two nearly simultaneous major theater wars. In addition, the Air Force must be ready to counter potential enemies who are increasingly likely to attack American interests asymmetrically. In 1999, the Air Force was continually tested, and each time, vigorously supported the national strategy by shaping and responding with its mission-ready forces while preparing for the challenging and complex future ahead.

Shaping

The Air Force continues to help shape the international security environment by deterring would-be aggressors with our formidable aerospace power, our global intelligence and surveillance operations, our forward presence, and our ability to reach any place on the globe

within hours. Air Force people enhance regional stability through numerous exercises and training programs, which build confidence with our allies and coalition partners.

Deterrence

While the nuclear threat has diminished, the requirement to demonstrate our national resolve to defeat any potential aggressor remains at the heart of our nation's security. Air Force watch officers maintain constant global vigilance over events on the ground, in the air, and in space. From the high ground of space, and from manned and unmanned airborne reconnaissance platforms, data streams back to command centers from Greenland to Guam and from Saudi Arabia to South Korea. Air Force airmen also maintained around-the-clock alert with Peacekeeper and Minuteman III intercontinental ballistic missile forces in the U.S., and flew B-1, B-2, and B-52 "global power" missions staged from the U.S. to distant locations, demonstrating to the international community our capability, commitment and resolve to respond anywhere on the globe within hours of an alert.

Promoting Stability

The Air Force seeks to promote international stability by building broad relationships with the militaries of other nations and promoting regional security through our presence. These ties increase mutual understanding and enhance interoperability. Air Force engagement programs facilitate cooperation and access during contingencies and enable future coalitions of willing and capable allies.

Recently, Air Force international engagement and stability efforts have focused on support of Joint Chiefs of Staff (JCS) and international exercises, the Partnership for Peace Program, Military Contact Programs, Operator-to-Operator talks, International Armaments Cooperation Programs, and Security Assistance efforts. Last year, the Air Force was engaged in 84 international exercises in 95 locations throughout the world. These included 15 exercises with 34 Partnership for Peace countries and nearly 300 focused Military Contact Program events.

Last year we also conducted a series of seven Operator-to-Operator talks, continuing a tradition spanning 17 years. These talks allow for open discussion of key interest issues such as doctrine, employment of airpower, tactics, coalition relationships, exchange of operational information, and training. The program currently involves active participation with several nations and is designed to provide direct interface with our allies. Under the International Armaments Cooperation Program, the Air Force has more than 300 agreements with allies and coalition partners to share the cost of developing and producing robust, interoperable systems and technologies. These programs involve cooperative research, development, production, scientist and engineer exchanges, equipment loans, and scientific and technical information exchanges.

In a very successful effort to promote stability and interoperability among allies and potential coalition partners, the Air Force Foreign Military Sales (FMS) program managed more than 3,900 contracts for aircraft, spare parts, munitions, and training in excess of $108 billion. Meanwhile, the International Military Education and Training (IMET) Program continued to emphasize management training and professional military education. Under IMET, the Air

Force trained 1,298 students from 95 countries. These efforts have enhanced stability and promoted improved relationships with the U.S.

Threat-Reduction Efforts

Not all threats to the national security of our nation are conventional in nature. Potential adversaries will increasingly rely on unconventional tactics to offset our superiority in conventional forces and technology. The Department of Defense as a whole must counter these asymmetric threats, and the Air Force is heavily engaged in this joint effort. As identified by the National Defense Panel, the key emerging threats are those that seek to deny us forward bases, disrupt our supply lines, and inflict casualties both within the United States and abroad. The Air Force is heavily engaged in both offensive and defensive strategies to defeat the capabilities that support these threats: information warfare, chemical and biological warfare, force protection, and counter-drug operations.

Information Superiority and Network Defense

The Air Force has become increasingly dependent on information networks and information systems, and in the future will become even more dependent on a secure, timely, and accurate flow of information. Indeed, a key enabler for expeditionary operations is the ability to leave a large number of combat support personnel at home base, linking them to engaged commanders through our information systems. Moving information rather than people and equipment reduces airlift requirements and limits the exposure of our forces to terrorism and chemical and biological attack. Robust information networks also enable the key concepts of modern logistics systems: time-definite resupply; in-transit visibility; and the reliance on support outside the engaged theater to minimize people, equipment, and supplies that must be moved to theater. The war in Kosovo tested this vision in combat and proved the validity of our reachback concept — through which we used communications to CONUS-based support elements for the processing of intelligence and targeting data and sustained some two dozen forward expeditionary bases.

In 1999, we worked across the board on the fundamentals of information superiority. Our logistics, financial management, and audit communities continued their efforts to ensure the trustworthiness of the data flowing through our systems by ensuring the accuracy, timeliness, and "auditability" of our key data systems. Our communications and computers community continued its efforts to protect all base data networks by routing all traffic through a central base Network Control Center (NCC) and protecting that traffic with appropriate firewalls and intrusion detection systems. In 1999, firewalls and NCCs were installed in all of our major bases at home and abroad. Similar equipment and procedures will be deployed to all Air Force installations — Active and Reserve — in the near future. In addition, we deployed a robust suite of tools to all of our bases to allow commanders to check for security holes in their information systems, and network protection was made a special interest item in all Inspector General inspections and a high priority audit issue for our Auditor General. Finally, the Air Force Computer Emergency Response Team continuously monitors all Air Force systems to identify computer intrusions and forwards advisories to all bases as new forms of intrusion are detected.

We are full partners in the recently established Joint Task Force for Computer Network Defense through our base network control centers, major command network operations security centers, Air Force Network Operations Center, Air Force Information Warfare Center, and Air Force Computer Emergency Response Team. We have made substantial progress in our Operationalizing and Professionalizing the Network (OPTN) initiative. Our objective is to organize, train, equip, operate, and protect our essential information networks just like our other mission-critical weapons systems.

Building on this foundation of trustworthy, protected data, the Air Force is designing a standardized Aerospace Operations Center for its theater and deployed commanders, drawing on our state-of-the-art theater and wing-level operations centers at Vicenza and Aviano, Italy. Through our Joint Expeditionary Force Experiments (JEFX 98 and 99), we are also trying revolutionary ways of using existing data to support Air Force, joint, and coalition commanders. In 1999, we fielded several "stars" of JEFX 98, including "NIMA in a Box," which provides expanded access to geospatial and mapping data, and the Joint Targeting Workstation, which permits the fusion of national and tactical intelligence data — including Predator video feeds — for rapid targeting. Early versions of these systems were used with spectacular success in Kosovo.

The Air Force fully supports the Global Command and Control System (GCCS) through its C4ISR Center and will shortly field the Theater Battle Management Control System (TBMCS), which is the core of the Air Force GCCS system. At the end of 1999, the Air Force also established a key headquarters element to monitor and coordinate the development and fielding of the Global Combat Support System (GCSS) within the Air Force. Over the next year, we plan to continue to strengthen our Chief Information Officer structure to ensure that we move toward interoperability of all Air Force information systems and that network defense remains a very high priority.

In the immediate future, improved network defense will require the fielding of the DoD Public Key Infrastructure (PKI). We have budgeted funds for PKI for several years, and intend to embrace PKI as it becomes a technical reality. Within the next two years, all personnel will have smart cards to support digital signatures in software applications, data encryption, and facility and system access control. It is our intent to certify all active-duty, civilian, Guard, and Reserve personnel in PKI as smart cards and associated equipment and software become available. We also intend to deploy PKI throughout our communication architecture to support user identity, access control, non-repudiation, data confidentiality, and data integrity.

Our defense-in-depth approach is paying off. The growing malicious software threat has had little if any impact on our network operations. Intense efforts by hackers and organized groups to disrupt networks during Operation ALLIED FORCE were of little or no consequence. We are blocking an increasing number of daily hacker intrusion attempts and the Air Force Office of Special Investigations, teamed with the FBI and other federal law enforcement agencies, has identified, caught and prosecuted a number of hackers.

While our network defenses are improving, so is the threat; it is real and dangerous. We will continue to shore up our defenses through a well-funded and rigorous defense-in-depth program that will deliver the information and mission assurance vital to our expeditionary operations.

Countering Chemical and Biological Weapons

The threat or use of chemical and biological warfare (CBW) is likely in future armed conflicts and poses a genuine danger to global stability and security. The Air Force continues to improve its C4ISR capabilities to identify and locate CBW weapons, storage, and production facilities. We are seeking to advance our counterforce capabilities to destroy CBW weapons, including those in hardened and deeply buried facilities and improve our ability to actively defend against and effectively manage the consequences of CBW if they are used. On the first point, the Air Force has just incorporated a penetrator warhead in the CALCM missile. The Air Force has moved decisively to prepare and protect its first responders and combat aerospace forces around the globe from the CBW terrorist threat. We have developed counter-Nuclear, Biological and Chemical (NBC) doctrine and concepts of operation, incorporating CBW issues into our training programs, to prepare our men and women to effectively counter the threat posed by CBW.

Force Protection

Protecting our people is a major part of our threat reduction efforts and continues to be a top priority at all command levels. The Air Force has institutionalized force protection by training our people, equipping and reorganizing our security forces, and exploiting technology.

Throughout their careers, airmen are taught the fundamentals of force protection. Our goal is to create a force protection mindset within the service. In 1999, the Air Force incorporated force protection academics as a part of Warrior Week during basic training and provided antiterrorism awareness training to personnel who deployed or moved to overseas locations.

In support of the EAF, the Air Force organized and equipped the 820th Security Forces Group (SFG), to provide stand-alone, rapidly deployable forces with a wide range of force protection skills to secure operations at forward locations. These skills include security, intelligence, medical, communications and engineering. The 820th SFG was developed at the Air Force Security Force Center, Lackland AFB. Upon maturity it will be transferred to Air Combat Command (ACC) and relocated to Moody AFB, GA. This process has begun with an initial small cadre assigned with duties to stand up the first squadron of 325 with an additional 215 military positions arriving during FY01. In 1999, the 820th deployed to Tirana, Albania in support of ALLIED FORCE and flawlessly demonstrated this dynamic capability.

Technology continues to provide force protection options to our troops. The Force Protection Battlelab at Lackland AFB, Texas, conducts research on new procedures and technologies to enhance our force protection posture. The lab's success stories for 1999 include the testing of a Remote Visual Assessment Strategy permitting rapid assessment of security situations and alarms at remote locations such as ICBM launch facilities and the perimeters of our forward located air bases. The lab also conducted a successful Proof of Concept Demonstration of the Sub-Tactical Unmanned Aerial Vehicle Surveillance System which can support deployed forces in hostile locations with an "eye in the sky" to assess beyond the detection zone of our forward air bases. Yet another example of the lab's success in 1999 was the development of the Vehicle Entry Explosive Search Strategy to improve our ability

to safely screen vehicles for explosives and thus increase entry point protection and security of our deployed AEF forces. Implementation guidance was published in a Vehicle Bomb Mitigation Guide which presents ready reference material associated with planning and executing programs and operations for protecting Air Force personnel and assets against the threat of vehicle bombs.

The Air Force also conducted extensive vulnerability assessments to improve security at permanent and expeditionary locations. In 1999, Joint Service, Air Force, and MAJCOM teams conducted 53 assessments of Air Force installations. The Service is mitigating identified deficiencies and aggressively pursuing permanent solutions. These assessments continue to improve our force security at home and abroad.

Counter-Drug Operations

The Air Force continues its role in assisting drug enforcement agencies in deterring the influx of illegal drugs. Air Force airborne and ground-based radars along with sophisticated intelligence and collection platforms work around the clock to identify suspected drug traffickers long before they enter U.S. airspace. Working together as a Total Force, our active and reserve airmen track, intercept and identify drug smugglers far from our borders. Within the U.S., Air Force working dogs stop significant quantities of illegal drugs at U.S. ports. In addition, the Civil Air Patrol (CAP) supports law enforcement agencies through aerial reconnaissance, airlift, and communications support.

Responding

The Air Force is prepared to respond with a wide range of options, should deterrence and promoting stability fail to meet national security objectives. From major theater wars to contingency operations to peace-keeping and humanitarian efforts, the Air Force's ability to rapidly respond anywhere on the globe made it the force of choice in 1999.

Operation ALLIED FORCE

As discussed previously, the benchmark for military responses to national security comes in the form of combat operations. Operations DESERT FOX, ALLIED FORCE, and NORTHERN and SOUTHERN WATCH were four combat responses we participated in during the past year. Our airmen responded with great skill and courage.

Contingency Operations

Despite our heavy commitment to operations in Kosovo, the Air Force provided support to contingency operations around the world throughout all of 1999. In Southwest Asia, we participated in simultaneous air campaigns — Operations NORTHERN and SOUTHERN WATCH. In 1999 we flew over 18,400 sorties over Iraq, employing over 1,200 munitions at a cost of $64.7M. We contributed 73% of the air assets patrolling the northern no-fly zone, produced 75% of the total sorties flown, and delivered 95% of the precision weapons dropped in

response to Iraqi violations and aggressions. In the southern no-fly zone, the Air Force provided 35% of the total air assets and flew 68% of the sorties. In the Balkans we flew 25% of the missions in support of the Dayton Peace Accords and continued our successes utilizing state-of-the-art reconnaissance platforms to monitor compliance during Operation EAGLE EYE. At the same time, the Air Force continued to support operations on the Korean peninsula out of permanent bases at Osan and Kunsan and through expeditionary forces deployed from Alaska into Taegu. Finally, when violence erupted in East Timor, the Air Force provided planning, airlift and security forces for Operation STABILISE.

Humanitarian Operations

With global power and global reach comes the ability to extend a helping hand for humanitarian relief operations, whether they are in the far reaches of the globe or right here in our back yard. The Air Force provided more than 900 personnel and flew more than 700 airlift sorties in support of Operation SHINING HOPE, which provided civil engineering, logistics, and security for some of the more than 1.3 million Kosovars displaced in the region. When massive earthquakes devastated Turkey and Taiwan, the Air Force provided airlift for much-needed supplies and provided transportation for crucial search and rescue teams. In July 1999, the Air Force demonstrated its quick global reach and versatility by flying to the South Pole to airdrop medical supplies to a U.S. researcher. In October, we returned again, this time to pick up a doctor who needed urgent medical attention. At home, the Air Force provided expertise in the fields of fire-fighting, environmental leadership, explosive ordnance disposal, emergency medical response, and search and rescue. During Hurricane Floyd, the Air Force flew more than 40 search and rescue missions, saving more than 200 lives. And, as in every other year, the Air Guard, acting in state status, responded to scores of civil emergencies throughout the United States.

Preparing

To stand prepared to meet national security demands, the Air Force must maintain its superiority in the face of evolving threats, high operations tempo, and reduced funding. To help us better meet these challenges, we implemented the EAF concept, focusing our Total Force team to further our aerospace integration efforts and to explore innovative ways to meet tomorrow's security requirements.

Expeditionary Aerospace Force

Since the Gulf War, America's Air Force has been asked to engage on a continuous basis in contingency operations across the spectrum of peace and conflict, frequently in austere locations, yet all the while remaining ready to fight in two major theater wars. To meet these requirements, we revamped our concept of operations to become an Expeditionary Aerospace Force (EAF) — changing how we organize, train, equip, and sustain our forces to meet the challenges of today's global security environment. The EAF concept represents an evolutionary transition from our Cold War operations and organization.

Prior to 1989, the Air Force was postured against one primary threat, the Soviet Union. Much of our force was forward deployed and if called to fight, would do so from home base or would deploy to a well-established, permanently manned facility. While our mobility forces deployed in support of humanitarian operations, our combat forces generally did not deploy away from well-established bases. Since the Gulf War, however, deployments of both combat and mobility forces to austere forward locations has become a way of life for the Air Force. The consequences of this change are far-reaching. To name a few:

- Our men and women are separated from their home bases and families for unpredictable and extended periods every year — with a significant negative impact on retention;

- Our home-station manning has become inadequate — and workload has increased — because forces are frequently deployed even though home-station operations must continue at near-normal pace;

- Our units deploying forward must carry much more infrastructure to expeditionary bases;

- Force protection and critical mission security for forward-deployed forces is a major consideration;

- The demands on our smaller units, such as ISR and combat search and rescue units, have dramatically increased — they are properly sized for two major theater wars, but some are inadequately sized for multiple, extended contingency operations;

- Due to the unpredictable nature of contingencies, training requirements have been expanded, and training cannot always be fully accomplished while deployed supporting contingencies; and

- Because contingencies are unpredictable, it is much more difficult to use Reserve Component forces, many of whom need time to coordinate absences with civilian employers before they are free to take up their Air Force jobs.

The EAF structure is a revolutionary transition intended to respond to all of these problems. First, we have created a rotational structure by reorganizing our Active and Reserve Component deployable forces into 10 Aerospace Expeditionary Forces (AEFs). These AEFs are employed two at a time for 90 days over a 15-month rotation cycle. During every cycle, the two engaged AEFs have enough equipment and forces to address steady-state contingency requirements, such as Operations SOUTHERN and NORTHERN WATCH, the Balkans, and counter-drug operations, as well as significant contingency operations short of major theater war. In addition, there are five lead mobility wings responsible for opening and operating airfields and assisting in humanitarian relief operations; each wing is on call for 90 days every 15 months. Finally, there are also two contingency response wings held in reserve to satisfy unplanned requirements above steady-state commitments. These wings will alternate on-call every 90 days and will eventually become part of the 10 AEFs as the EAF concept matures.

Second, we have added manpower to the primary bases that support each EAF component, so that there will be sufficient manpower on a base to support both home station and deployed operations. In FY00 we will move 2,640 authorizations from predominately “tail” to “tooth”

to support the EAF. We have programmed some 3,180 additional positions for FY01, and will need to continue to address the resourcing needs of some of our career fields, such as security forces, to fill base operating support requirements at contingency bases.

Third, we are working on making all of our deploying units lighter and leaner so that they can deploy in 72 hours or less. This effort has many dimensions. For example, we must use our space systems to allow us to "reach back" to CONUS for combat support. We must reduce the amount of equipment and spares that move forward, which requires us to perfect two-level maintenance, time-definite resupply, in-transit visibility, and a host of modern logistics improvements. We must also perfect our deployable support equipment, which provides food, tents, beds, power, communications, sanitation, and all of the basic requirements of life. And we must augment the equipment that is necessary to run operations from austere fields, such as radar approach control equipment, maintenance equipment, fire fighting equipment, and special purpose vehicles.

Fourth, we must organize and train our deploying forces, especially our expeditionary combat support, and tailor them to the requirements of the contingency operation they will perform. This task includes major innovation to prepare and employ teams in unit type codes (UTCs) within the joint warfighting planning systems. This effort allows us to present our total force capabilities more effectively while providing the predictability and stability our people need in their lives.

The EAF concept is revolutionary as it helps balance the aerospace challenges of the future, the conflicting demands of broad engagement operations, diverse CINC requirements, while providing a clear response to our people's needs — offering them more reason to stay with the greatest aerospace power team ever fielded.

On October 1, 1999, the Air Force began the AEF rotation cycle transition period and expects to be fully operational by March 2000. Building on EAF concepts in Kosovo, in which we were able to open, equip, man, and operate some 21 expeditionary bases in Europe, we expect early AEF rotations to be successful. Our initial deployments have in fact been very successful; however, challenges remain as we fully implement the EAF concept. Global taskings for our low-density/high-demand (LD/HD) platforms — intelligence, surveillance and reconnaissance, command and control, and search and rescue assets — continue to strain our people and equipment. Similarly, we have identified shortfalls in some capabilities, such as suppression of enemy air defenses (SEAD), which will require us to add new aircraft to make all of our AEFs roughly equivalent. We will continue to hone and improve the EAF concept as we implement it, incorporating lessons learned from ongoing AEF deployments.

Total Force Integration

The U.S. Air Force is an integrated Total Force that relies on critical contributions from active-duty members, Guardsmen, Reservists, civilians, and contractors. Each brings unique and complementary characteristics to produce a strong and versatile team. The active component drawdown, in concert with a shortage of trained aircrews on active duty and the increase in operations tempo, has dramatically increased our reliance on the Air National Guard and Air Force Reserve. For example, in EAF, the Air National Guard will rotate 25,000 airmen through contingency assignments in the first 15 months, and combined with the Reserve, will supply 10% of the deployed forces in each rotation. The Guard and

Reserve are also actively moving into less traditional roles at home. The Air National Guard is transitioning to F-16 training missions at Kelly AFB, Texas, and Springfield Air National Guard Base, Ohio, and to F-15 training at Tyndall AFB, Florida. The Reserve is also transitioning to the F-16 training mission at Luke AFB, Arizona, and is conducting test support at Edwards Test Center, California; flight check functions at Air Force depots; and instructor duties at primary pilot-training bases. We continue to increase the number of reserve associate units established alongside active F-16, F-15, Airborne Warning and Control System (AWACS), KC-135, C-5, C-141, C-17, Special Operations C-130 units, and space operations units. Associate units have no assigned aircraft and use active-duty aircraft for training and mission accomplishment.

Aerospace Integration

Since its inception, the Air Force has made great strides in gaining air superiority and exploiting space. We view the flight domains of air and space as a seamless operational medium. Their integration is essential to advancing our warfighting capabilities in support of the nation's security obligations. We are committed to providing effective and interoperable aerospace capabilities for the nation.

The merger of air and space operations is a continuing journey. For the past decade, the barriers between air and space planning and operations have diminished substantially. Through further integration, we seek to produce the most efficient military effects for the joint force commander without regard to where platforms reside.

The Air Force is not America's only operator in air and space, but we do account for over 85% of DoD's personnel, budget, assets and infrastructure for space-related activities. On a daily basis, U.S. military forces depend on the full set of space assets acquired and operated by the Air Force. In addition, our nation's investment in and reliance on space-based capabilities to support the national information and commercial infrastructure is increasing. As more countries enter the space domain, potential threats will increase, and space control will become a more important capability of the Air Force.

Over the past two decades, the Air Force has developed a number of key capabilities that demonstrate the further potential of integrating air and space competencies. For example, to facilitate the timely development of space forces, the Air Force has placed an emphasis on space control in the requirements generation process. The Counterspace Oversight Council (CSOC) has been created to validate Air Force counterspace requirements and ensure space control priorities are adequately considered. Furthermore, intelligence, surveillance, and reconnaissance (ISR) systems, which combine air, space, and ground sensors, are becoming the standard for global ISR capabilities. In Operation ALLIED FORCE, our U-2s flying over Kosovo and Serbia relayed their data via satellite in real time to CONUS, where that data was analyzed and sent back to the theater. Real-Time-Into-Cockpit (RTIC) information capabilities have taken intelligence, surveillance, and reconnaissance a step further. RTIC conveys perishable battlespace information directly to the cockpit, enabling aircrews to take advantage of new target opportunities while avoiding new threats. This concept became a reality with the Multi-Source Tactical System (MSTS) and Track II systems that provide satellite communications links to strike aircraft already en route to the target area.

Integration of air and space systems also requires integration of education and training. The Air Force has initiated a number of new programs to accomplish such training. The Aerospace Basic Course at Air University lays the foundation for understanding aerospace concepts that will shape the culture of tomorrow's Air Force. All new officers must attend this course, in which they will learn how to defend an expeditionary force and how to plan and execute an integrated aerospace tasking order (ATO), which is the gameplan for modern combat operations. In addition, we established the Space Warfare Center and, in conjunction with the Air Warfare Center, are developing tactics, techniques, and procedures for better warfighting capabilities. Finally, we established the USAF Weapons School Space Division at Nellis AFB, Nevada, to provide intensive, graduate-level education for space and missile operations officers alongside fellow officers from the fighter, bomber, command and control, rescue, intelligence, and tactical airlift communities.

In an effort to improve the effectiveness of Aerospace Operations Centers (AOCs), we also established the Aerospace Integration Center at Nellis AFB, Nevada. This is a fully equipped, state-of-the-art AOC, where airmen can learn the basics of battle management and test new theories in conjunction with real and simulated operations on the Nellis ranges. The integration center is a significant step toward normalizing the AOCs like any other weapon system, with the goal of ensuring proper training, certification, and management for personnel with air, space, and information credentials for assignment to AOCs.

We have identified a number of goals over the next few years to further integrate our air and space capabilities. We will:

- Provide career-broadening opportunities for our people to develop an aerospace mindset throughout the Air Force;

- Expand education and training for our enlisted members to ensure they can appreciate their contribution to the aerospace force;

- Normalize Air Operations Centers as weapon systems;

- Broaden the training of our joint force aerospace component commanders (JFACC) to include specific aerospace education and field experience;

- Exploit data-fusion capabilities to support AOC functions by fusing aerospace ISR data, exploiting distributed networks, building a comprehensive view of the battlespace, and providing near real-time inputs for existing battle management systems;

- Develop dynamic space scenarios for exercises and wargames to train our personnel in the use and limitations of existing and future aerospace capabilities; and

- Improve the ability of our acquisition community to evaluate ground, air, information, and space options based on military performance, cost, and effectiveness.

Innovation

Innovation has always been the key to ensuring today's Air Force will meet the challenges of tomorrow. Innovation has played a crucial role in our aviation heritage, and it will enable the

Air Force to continue to apply and upgrade its capabilities to meet the future security needs of the nation. The Air Force is committed to a vigorous program of researching, experimenting, testing, exercising, and evaluating new operational concepts and future systems for aerospace power.

Battlelabs

The Air Force continues to reap the benefits of the six battlelabs created in 1997. The six battlelabs–Air Expeditionary Force, Space, Information Warfare, Force Protection, Unmanned Aerial Vehicles, and Command and Control–are small, focused groups of operators developing high-payoff concepts as we seek to support DoD's missions. The battlelabs help us to develop superior ways to organize, train, equip, plan, command, and employ aerospace forces. Some early benefits of the labs include development of the Enhance Linked Virtual Informations System (ELVIS), Joint Surveillance Target Attack Radar System (JSTARS) Battlespace Imaging, Network Attack Visualization, Ground Based Radar Site Protection, Expeditionary Operations Centers, and Space Surveillance Network Optical Augmentation. Each of these innovations allows us to provide cost-effective capabilities for combatant commanders and enhanced joint operations.

Joint Expeditionary Force Experiment

Last year's Joint Expeditionary Force Experiment was the second in a series of Air Force experiments designed to explore new operational concepts and advanced technologies. JEFX 99 expanded the command and control experimentation developed in JEFX 98, enhancing the integration of space capabilities into the integrated command and control system distributed architecture and incorporating coalition forces into the Air Operations Center. In JEFX 00, we will focus on agile combat support while continuing our efforts in expeditionary operations, information operations, common operational picture, and medical readiness.

Wargaming

The Air Force conducts two major wargames to explore new strategies, concepts, capabilities, and doctrine. Each wargame is held biannually on a rotating basis. The first, Global Engagement, explores emerging aerospace concepts set approximately 10-15 years into the future. The second, Aerospace Future Capabilities Wargame, evaluates strengths and weaknesses of future forces and operational concepts 20-25 years from now by comparing them against our Vision and Strategic Plan. The outputs from these wargames provide insights and suggest additional analyses that eventually feed into research, experiments, exercises, and the operational Air Force.

Headquarters Air Force 2002

Headquarters Air Force (HAF) 2002 will bring us into the new millennium in a manner consistent with our Vision. It will create a military headquarters that is more effective, more efficient, and a better place to work. HAF 2002 is a response to the changing dynamics of our expeditionary aerospace force, which necessitate a headquarters that is equally agile in

providing the appropriate plans, policies, and resources our forces need. Early initiatives have included reorganization of information networks and support offices to permit electronic transmission of tasks and documents throughout the headquarters and the creation of a single executive secretariat to manage work flow. We are also reorganizing our public affairs and legislative affairs offices in an effort to permit better coordination of information flowing to Congress, the media, and the public. HAF 2002 seeks to rethink and redesign processes to achieve dramatic performance improvements and to leverage the talents and improve the quality of life for all Air Force members assigned to the headquarters. It will focus on cutting costs, eliminating redundancies, reducing work of little value, and creating the agility to better adapt to a constrained resource environment.

Defense Reform Initiative/Air Force Management Reform

The Office of the Secretary of Defense has established the Defense Reform Initiative (DRI) to improve the way DoD works by reallocating resources from support areas to fighting forces. The ultimate goal is to balance the demands of meeting current requirements with the imperative to invest for the future. In today's era of tight budgets, the Air Force is committed to reducing overhead functions and moving maximum capability to its combat units.

We continue to aggressively scrutinize management headquarters levels to ensure they are the absolute minimum to execute the operational mission. In fact, reductions in management headquarters have outpaced those of overall force structure since the drawdown began in 1987. However, recent significant shifts in how and where we deploy our forces in response to worldwide contingencies caused dramatic increases in the demands on our staffs. In particular, to make expeditionary operations work, our forward forces must reach back to CONUS-based staffs for combat support functions. We must therefore, maintain adequate management headquarters staff capable of the tremendous logistical and planning efforts necessary to execute our military objectives. We are already at the limit of staff reductions we can take and still support assigned missions.

We continue to execute the public/private manpower competitions that have become a DRI success story. The Air Force fully executed its 1999 plan for announcement of OMB Circular A-76 studies, with 9,083 positions added to the study pool. We concluded 15 cost comparison initiatives, covering 1,205 positions which resulted in 60% of work being contracted and the remainder going to the government's most efficient organizations. Additionally, we completed 31 initiatives to contract via the direct conversion process, covering 646 positions. The average savings was 35%. We conducted a top-to-bottom "commercial activity" review of our manpower authorizations, yielding additional competition candidates. This continues to be a promising initiative and will be completed annually. Our efforts to incorporate better business practices and efficiencies are not limited solely to commercial activities. By utilizing a strategic sourcing approach, we will continue to find better ways to do business in areas that are not commercial in nature. Establishing an overarching strategic sourcing program that complements OMB Circular A-76 competitions with other efficiency tools such as reengineering extends our opportunities for improvement into inherently governmental functions as well.

In support of the DRI and Defense Reform Initiative Directive (DRID) #49 which addresses specific goals for utilities privatization, we are tracking the status of 640 utility systems

(water, wastewater, electrical, and natural gas) in the Air Force inventory. We have determined 78 utility systems were already privatized prior to the DRI; 23 systems are owned by others (for example, owned by host nations at overseas locations); 98 utility systems are exempted due to readiness requirements; leaving 441 systems as candidates for privatization. We have awarded contracts for analysis of 288 systems to determine the feasibility for privatization. We are also applying these same goals to military housing. Since FY 98, we have added eight projects to our family housing privatization efforts. This gives the Air Force a total of ten pilot housing privatization projects for FY98-00. The privatization effort is critical to our overall housing revitalization program as outlined in our Family Housing Master Plan, approved in August 1999.

Financial Management Reform

The Air Force, as a prudent steward of public funds, is working diligently to comply with the Government Performance and Results Act (GPRA) and the Chief Financial Officers (CFO) Act. We have already begun incorporating key GPRA measures into our financial statements. Last year the Air Force passed audit tests on some of the most important portions of its CFO financial statements, including disbursements and budgetary resources provided. We have instituted specific organizational and training changes aimed at improving internal controls to help prevent fraud and improve confidence in our financial performance. The Air Force also has an ongoing program to fix its financial systems, a key step in moving toward unqualified audit opinions on all its financial statements. As we improve our financial systems, the Service will focus first on those improvements that help commanders make better decisions.

Decisive Fighting Force

The Air Force meets the nation's challenges because of our world-class people, readiness, modernization, and infrastructure. However, we must continue to address challenges that threaten to undermine our status as a decisive fighting force. We work hard to ensure we recruit and retain quality people, meet our near-term readiness goals with the proper equipment and training, and meet our long-term readiness objectives with a time-phased modernization effort. We are extremely grateful to Congress, the President, and the nation for the historic gains in compensation and benefits made in FY00. These recent gains positively impact retention and quality of life for all our personnel and puts us on the road to recovery.

People

The cornerstone of our Air Force is our airmen who get the job done, whether maintaining a fighter for combat operations over the Balkans, serving as a loadmaster on a C-17, controlling satellites from Colorado, or standing alert at a missile launch control center in

Wyoming. Our airmen are well-trained, fit, motivated, and ready to serve their country. They are our most valuable resource and our top priority.

Because our people are the key to accomplishing our mission, we continually review our personnel end strength levels and size these levels to support evolving mission requirements and fact-of-life personnel dynamics. We determine our military and civilian manpower needs programmatically through a requirements-based process linked to the National Military Strategy. The Air Force continues to capitalize on technology, modernization, and Total Force integration, as well as aggressively pursuing opportunities to achieve best value by commercially competing non-military essential support functions. We have recently commissioned an independent study of Air Force manpower requirements, focusing on the needs of the EAF at a time when our aging aircraft fleet is also driving increased maintenance manpower requirements. This study, to be performed by RAND with outside reviewers, will seek to define required manning levels and also provide sourcing strategies for required manpower, including using the best combination of Guard, Reserve, civilian, and contract manpower.

Recruiting

Even in the competitive job market of the 1990s, the Air Force has continued to recruit men and women of extremely high caliber. We are committed to building and maintaining a decisive fighting force and to do this we must continue to access high quality people despite the current recruiting challenges. Over 99% of our accessions have high school diplomas, and 76% rate in the upper half for test scores achieved on the Armed Forces Qualification Test. Because we depend heavily on highly technical skills honed over years of experience, we seek to recruit the very best, and then retain them for a career.

Although we are proud of our recruiting record, we must improve. Our recruiting environment faces the most intense hurdles we have experienced in our history. Interest in military service among America's youth was relatively low, but stable in the late 1990s (13% for men and about 7% for women) after declines in the early 1990s. At the same time, the job market is strong, especially in the high-tech industries — the Air Force's biggest competitor. Unemployment in 1998 was at its lowest level in a generation at 4.5%. Preliminary data shows that the unemployment rate for 1999 was 4.2%. These factors coupled with the increase in the percent of college-bound high school youths, now over 65%, have further reduced the number of potential recruits.

We need to be aggressive and creative in meeting the challenges of today's recruiting environment. During 1999, for the first time in 20 years the Air Force missed its recruiting goal. We actually accessed more recruits in 1999 than in 1998, but our recruiting goal was raised in 1999 because of our retention declines. Compared to the 1998 recruiting goal of 31,300, our 1999 goal grew to 33,800, and the 2000 goal is 34,000. To help meet this growing challenge for new recruits and proactively frame our future recruiting efforts, we conducted a Recruiting Summit (a top-to-bottom recruiting and accession review). As a result of this review, we have developed a multi-faceted strategic plan including more than 120 initiatives we are now considering for implementation to combat the recruiting shortfall. Reprogrammed funds of $8M in FY00 and $20M in FY01 will target: expanding our

recruiting force; stepping up marketing and advertising; broadening awareness of the Air Force; and fielding more enlistment incentives.

- **Expanding our recruiting force.** Although they enjoy exceptionally high productivity, Air Force recruiters are currently outnumbered by our sister services by a ratio of 13 to 1. A single Air Force recruiter is expected to produce over 2.5 recruits per month compared to the DoD-wide average of approximately one per month. Recognizing the importance of our "front line" ambassadors, we have increased recruiter production to fill 100% of our existing authorized billets. As a result, production recruiter manning has increased from 985 in FY99 to over 1,140 today and is projected to increase to 1,209 by March 2000. We will continue our "full court press" through March 2001 to increase recruiters by an additional 300 to 1,509 total. In order to support this increase, we will also invest approximately $8M in FY01 in new facilities and support equipment for these recruiters.

- **Energizing new, creative, and innovative marketing and advertising efforts.** In the past, we have successfully attracted enough recruits without focussed market strategies. However, in today's strong economy, many other attractive options are available to the high quality person we are attempting to recruit. For the first time in our history, we have budgeted for prime time television advertising. We are also expanding our marketing and advertising to include new technology venues: in-system high school television advertising; theater; Internet; and interactive CD-ROMs. In addition, we have refined our advertising efforts in radio, magazines, newspapers and targeted base-level and regional influencer tours. For FY00, we have allocated over $65.4M to these efforts and plan to invest $59.2M in FY01 to continue to project our Air Force image to America's youth, sending a message that highlights a healthy mix of intrinsic and incentive benefits.

  In a parallel effort, we are establishing a centralized Air Force Marketing Office to direct all Air Force marketing and advertising efforts. Its charter will include consolidating all marketing and advertising funding and research, expanding marketing and advertising expertise, and developing an integrated, comprehensive multi-media program for the Total Force. We recognize we must leverage our marketing and advertising efforts and associated resources to optimize our ability to specifically attract our target audience and increase our visibility at all levels, from the broad national perspective to the local community.

- **Broadening awareness of the Air Force** by increasing our presence in America's local communities. We are opening new high school Junior ROTC (JROTC) units and adding a college Senior ROTC detachment. Although JROTC is a citizenship and leadership development program, nearly 45% of all JROTC graduates historically affiliate with the military. Therefore, with reprogrammed funds and support from Congress and DoD, the Air Force is expanding the number of high school JROTC units from 609 today to 945 by FY05. And although ROTC enrollments have been down, in FY01 we will open a new Senior ROTC detachment in Alaska.

- **Developing and expanding accession incentives.** Competition for high-quality candidates is at an all-time high. To continue to attract America's best and brightest and maintain our technical edge, we are committed to developing and expanding accession incentives. As a result of our Recruiting Summit, the Air Force is investing $5M in a pilot College Loan Repayment Program in FY01. We have also expanded our Enlistment

Bonus Program to include over 100 skills and increased the maximum bonus amount to $12,000 for selective six-year enlistments for combat controller and pararescue specialties. These increases have met with great success — 68% of our bonus eligible accessions selected a six-year initial enlistment in FY99. Expanded funding for critical skill enlistment bonuses was also included in our FY00 budget. In addition, a six-month test to award $3,000 enlistment bonuses to members enlisting for four years in the mechanical area (a mechanical aptitude index of 44 and higher) is included in the FY01 budget.

We also plan to expand our Prior Service Enlistment Program, which accessed 605 prior service members in FY99 compared to 196 in FY98, and develop a pilot program to test a new Prior Service Enlistment incentive. We have developed an Enhanced Prior Service Program that expands the number of career fields for former Air Force members who honorably served in any specialty, possess the necessary aptitude and are willing to retrain into any critically manned career field. In addition, we have also expanded the opportunities for former sister service members who meet our entrance criteria. Paralleling these efforts, we are investing $2M in FY01 to develop and field a prototype Prior Service Enlistment Bonus Program targeted at former Air Force members who can move into hard-to-fill or critical career fields.

We believe these four targeted efforts, in addition to the compensation gains provided in the FY00, will have a significant impact in our ability to make choosing an Air Force career a viable and realistic option, as well as restore our competitive recruiting edge.

Retention

Our need to retain a highly skilled force remains a top priority. The Air Force's high level of concern has increased because of continued declines in enlisted and officer retention as well as an unbalanced civilian workforce. From FY98 to FY99, first-term enlisted retention dropped from 54% to 49%, short of our goal of 55%. Likewise, career airmen retention fell from 93% to 91%, below our goal of 95%. Although second-term airmen retention stabilized at 69%, it is below our goal of 75%.

Officer retention is also challenging, especially among our pilots. Last year, pilot retention fell from 46% to 41%. However, the FY99 long-term pilot bonus take rate, a forward-looking measure of pilot retention, rose to 42%, up 15 points from FY98's long-term rate of 27%, permitting a measure of guarded optimism. Navigator retention remained steady at 62%. On the mission support officer side, retention rates actually improved from 43% to 44%, while retention rates for non-rated operations officers dropped from 57% to 56%.

Many factors affect the decision to stay in or leave the Air Force. Our quality of life and exit surveys over the last three years have surfaced reasons our members are dissatisfied. High operations tempo has consistently been a leading motivator to separate, along with the ready availability of well paid civilian jobs, existing wage gaps, and dissatisfaction with the Redux retirement plan. Additionally, reduced quality of life and job security concerns due to competitive sourcing and privatization initiatives are also key influencers for personnel who have separated from the Air Force.

The Air Force greatly appreciates Congressional support for our FY00 compensation initiatives that will help combat declining retention rates. Our men and women seeking tangible incentives which might influence them to remain a part of the Air Force Family are experiencing the largest pay raise in almost 18 years (4.8% — effective January 2000). These initiatives coupled with the ongoing efforts to close the pay gap with the civilian sector, display sincere gratitude for the daily sacrifices of our service men and women. All of these efforts will make continued service more attractive. Although too early to assess the full retention impact, we believe the benefits gained through FY00 legislation will have a positive impact on Air Force personnel contemplating a "stay or go" career decision.

Several other key programs were also in FY00 legislation. Enactment of the Career Enlisted Flyer Incentive Pay (CEFIP) will encourage enlisted aircrew members to join and remain in the aviation career field. Reducing out of pocket expenses for first-term airmen assigned to their first duty station through the enactment and implementation of a Temporary Lodging Expense (TLE), which did not exist before, as well as an adjustment to the Basic Allowance for Housing (BAH), will help improve retention.

The authority provided in FY00 to expand the Aviation Continuation Pay (ACP) Program is a significant part of the multi-faceted approach designed to improve pilot retention in FY00 and beyond. Mid-career and senior pilots have been separating in unprecedented numbers in recent years. In FY99 for every two pilots that we trained, three walked out the door. However, we are optimistic that pilot retention will improve due to changes to the ACP program. The restructured program takes full advantage of the authority the Service has been given by increasing the annual amount of the bonus to $25,000 per year and extending the length of the bonus out to 25 years of aviation service. This compensation package is designed to retain pilots through a full military career. As we witnessed the long-term pilot bonus take rate increase from 27% in FY98 to 42% in FY99, we believe that this leading indicator of pilot retention will continue to reflect an improved retention environment as we implement the FY00 program.

The Aviation Continuation Pay (ACP) Program was enacted and implemented in 1989 to influence rated retention and stabilize the rated force. In exchange for additional commitment to service, ACP is offered to a targeted group of pilots to arrest declining retention due to the significant "pull" of airline hiring and "push" of operations tempo. The Air Force is capitalizing on this increased authority by restructuring its ACP Program and expanding the eligible population of aviators.

We have implemented other ideas and incentives to eliminate the reasons our people leave the Air Force. We implemented the Expeditionary Aerospace Force concept, which will give our people more stability and predictability in their deployment schedules. Whenever possible, we minimized our participation in exercises, and lowered the frequency of our operational readiness inspections, yet still ensuring combat readiness. In an effort to encourage the number of reenlistments needed in certain skills to sustain the specialty career force objectives, we have more than tripled the number of specialties eligible for Selective Reenlistment Bonuses since 1995. Now, approximately two-thirds of all specialties qualify for a bonus in one, some, or all of the three bonus zones. Also, as part of our multi-faceted approach to abate our pilot exodus, we increased Aviation Career Incentive Pay (flight pay)

from $650 to $840 at 14 years of service, prioritized our requirements, reviewed alternative staff manning, and increased our pilot production and service commitment.

Air Force civilians are an integral part of our aerospace team. In an effort to provide commanders with a state-of-the-art, sustainable civilian workforce capable of meeting tomorrow's challenges, we are working on the following solutions: managing our accessions with properly sized force renewal programs; expanded and targeted training and retraining; and separations management through the use of buyouts (incentives) for force shaping.

To sustain a civilian workforce, we need the right mix of new, mid-level, and senior employees. In the last nine years we have seen a 62% drop in employees with less than eight years of service and a 10% increase in the number of our employees who are eligible for retirement. In five years, over half of our civilian work force will be eligible for optional or early retirement. This imbalance occurred through a combination of loss programs and constrained accessions. Loss programs included early retirements and separation incentives that trimmed the more senior year groups while minimizing involuntary actions, such as reductions in force. Constrained accessions limited the number of new hires while the force was reduced over the last nine years. These factors are leading to sustainment problems and a shortage of mid-level managers and administrators from which to select future Senior Executives. "Currency of skills," particularly in our high-tech area, is another issue related to civilian retention. Without an adequate influx of new employees with current, state-of-the-art skills, our acquisition, scientific, and technical workforce is not sustainable.

Air Force senior leadership is committed to developing a plan to better manage and further improve our Total Force retention. We have scheduled a Retention Summit, similar to the Recruiting Summit, to review retention issues covering the full range of concerns to include operations tempo management, quality of life (medical care, education, etc.), assignment system, mentoring, and leadership. Field focus group visits will validate findings and initiatives resulting from the Retention Summit. We remain optimistic that these changes and improvements will renew our people's faith in our ability to provide the quality of life they deserve and reaffirm our commitment to recruit and retain a dedicated quality Air Force into the 21st Century.

Quality of Life

Our most valuable resource is our people and we are committed to taking care of them and their families. Quality of life initiatives acknowledge the increasing sacrifices our people make in support of our national objectives and are pivotal to recruiting and retaining our people. Quality of life for our people occupies a prominent position in Air Force strategic planning and ranks with modernization and readiness as Air Force's top priorities. The welfare of the men and women serving our nation is a critical factor to our overall readiness. Therefore, the Air Force will continue to place people and quality of life investments in a balanced funding priority with readiness and modernization. We will continue, with your support, to pursue quality of life priorities such as fair and competitive compensation and retirement systems; balanced PERSTEMPO; safe, affordable, adequate housing; increased support of community and family programs; expanded education programs; and improved access to quality health care.

The FY00 compensation initiative recognizes our people as a valuable asset, acknowledges their contributions, and provides superb quality of life enhancements. We are greatly encouraged by the improved compensation strategy and increased benefits–full restoration of the military retirement system; a 4.8 % pay raise; future pay raises set at Employment Cost Index plus 0.5 %; pay table reform; Career Enlisted Flight Incentive Pay approval; Basic Allowance for Housing increase; Aviation Continuation Pay enhancements; Temporary Lodging Expenses for first term airmen; and the Air Battle Managers save pay provision—and its potential to affect recruiting and retention.

In addition to these gains presented by FY00 legislation, the Air Force is making every effort to further enhance our airmen's quality of life. To help arrest the increasing operations tempo levied on our people, we implemented the Expeditionary Aerospace Force concept, which will give our people more stability and predictability in their deployment schedules. Additionally, the need for sustained investment levels, coupled with cost-based housing allowances and the ability to competitively source and privatize ailing infrastructure will go a long way to provide access to safe, affordable, and adequate housing. Our infrastructure bears the brunt of funding pressures in a budget-constrained environment and sustained deferment of maintenance over many years further complicates the problem. Even within these pressures, we have applied $91.6M on this budget submission toward our Dormitory Master Plan to eliminate a deficit of dormitory rooms and replace the worst facilities. We have adopted a 1 + 1 (one airman living in a room sharing a bath) plan to house unaccompanied airmen and currently 75% of our unaccompanied airmen housed on base have a private room with a shared bath. We have also funded $223M for our Family Housing Master Plan, which improves and renovates military provided housing. In addition, DoD has introduced a proposal to adjust basic allowance for housing (BAH) to reduce out-of-pocket expenses to 15% by FY01 and potentially eliminate out-of-pocket expenses within five years. Finally, personal fitness contributes to Air Force readiness by increasing productivity, providing preventive health benefits, and long-term medical cost savings. As such, we dedicated $33.4M for fitness facilities and an additional $3.5M for in-theater fitness, sports, and recreational equipment.

In the Air Force, we realize that while we recruit individuals, we retain families. In addition, as large parts of our force deploy for extended periods, our ability to care for their families becomes increasingly important. Consequently, we continue to demonstrate our commitment to our airmen and their families through programs such as chaplain services, spouse employment, personal financial management assistance, childcare and youth centers, surviving spouse casualty support, relocation and transition assistance, commissaries, and military exchanges. Also, for our junior airmen, we offer a Personal Financial Management Program to help deal successfully with today's heavily credit-based society. In order to expand and enhance our childcare and youth activities, we have dedicated $4.5M for child care center construction. We further dedicated $2.9M to our deployed spouse outreach programs, which increases Internet capability at deployed locations to provide worldwide connectivity between deployed troops and their families. Our family readiness staff members at each Air Force base provide a wealth of information and support for families of deployed airmen.

An important quality of life factor that significantly impacts recruiting and retention is expanded educational opportunities. For airmen working toward attaining their initial college degree, the Community College of the Air Force allows them to

combine college credits and military education and experience to earn an associate degree. For both undergraduate and graduate education, the Air Force Tuition Assistance Program pays up to 75% of tuition costs for accredited colleges and universities, and the Air Force Civilian Tuition Program supports self-development for civilian employees. Although educational pursuits are difficult given our high operations tempo, our current distance learning initiatives offer our deployed personnel distributed learning through CD-ROM and interactive television (paper-based). We are developing an advanced distributed learning initiative through web-based education for the future. The Air Force supports elimination of the $1,200 payment required to receive the education benefit of the Montgomery GI Bill. In addition, we support expanding enrollment opportunities for those not currently covered by the bill. These Air Force educational programs give our people valuable motivational benefits.

Perhaps the biggest quality of life issue facing the Air Force today and in the coming years is medical care. Access to quality health care is crucial to the quality of life of our airmen (active duty and retirees) and their families and greatly affects our recruiting and retention efforts and, ultimately, our readiness. TRICARE, the DoD program to ensure health care at a reasonable cost, is designed to provide a quality health care benefit, improve beneficiary access, preserve choices for our beneficiaries, and contain costs, all while providing a structure to support the military medical forces needed to deter and fight the nation's wars. TRICARE was fully implemented as of June 1998 and is a good start to providing quality health care. However, there have been problems, such as access to care, claims processing, reimbursement levels, and TRICARE management requires constant attention. Several of these issues have been resolved, and the rest are being worked aggressively. Our latest Air Force Inspection Agency audit concluded customer satisfaction with TRICARE is increasing.

The Air Force Medical Service initiated bold reengineering efforts to increase access to Military Treatment Facility (MTF) medical care and provide a much stronger emphasis on preventive services. The goal is to enable all TRICARE Prime beneficiaries to be assigned to an MTF Primary Care Manager by name, as well as to be guaranteed access for acute, routine and preventive appointments. At the direction of the Secretary and the Chief of Staff, the Air Force Surgeon General (SG) developed a campaign plan to ensure line commanders understand TRICARE and know how to help subordinates with problems. Preliminary results from this program, Operation Command Champion, have been very encouraging.

Also, numerous demonstration projects to improve the quality of TRICARE are under way, especially for retirees and Medicare-eligible beneficiaries. For example, a Medicare Subvention program called TRICARE Senior Prime is currently active at five Air Force locations; the MacDill 65 subvention program cares for up to 2,000 enrollees in the Tampa, Florida region; and the Federal Employee Health Benefit Program (FEHBP) 65 test, a nationwide program at eight selected locations, is slated to begin in spring 2000.

We are now working TRICARE and health care issues through the Joint Chiefs of Staff and the Defense Medical Oversight Committee (DMOC), which has been formed to ensure optimum Service participation in the health care agenda and improve health care for active and retired members. This board consists of USD (P&R), Service undersecretaries, Service vice chiefs, and ASD (HA) as voting members. The Service SGs participate but are non-voting members. The main purpose of this board is to define the medical benefits and establish budget priorities.

Equal Opportunity

The strength of the Air Force is in its talented, dedicated, and diverse men and women working together as professionals to accomplish the Air Force mission. Creating and sustaining an environment that is free from unlawful discrimination and harassment is therefore a vital part of the Air Force readiness equation. And the commitment to fully utilize the talents and capabilities of a diverse workforce is critical to achieving the Air Force mission. Every Air Force member and civilian employee deserves the opportunity to realize his or her full potential and to work and live in an atmosphere that respects and values human dignity and each has concomitant obligation to treat co-workers and subordinates in the same manner.

Air Force policy on unlawful discrimination and harassment is very clear: zero tolerance for such behavior in any form. Harassment, threats or ridicule of individuals or groups based upon their real or perceived differences have no place in the Air Force and will not be tolerated. We will provide equal opportunity and treatment for all members and employees regardless of race, color, religion, national origin, sex, and in the case of civilian employees, disability and age.

The Air Force is also committed to eliminating behavior and unintended barriers that hinder successful performance, and to creating an environment where every person has an opportunity to serve. We are committed to providing our Total Force with strong leadership, effective policies and programs, training and education opportunities, enforcement and resolution tools. We will continue to strive for improvement through an ongoing program of evaluation and assessment.

Commanders and supervisors have a responsibility to combat the effects of unlawful discrimination and harassment and to promote a healthy environment and human relations climate. Equal Opportunity is a critical performance factor for all military and civilian leaders, supervisors and managers.

Readiness

The Air Force must be ready to respond rapidly anywhere in the world on very short notice. We are ready to meet this demand every day, as we demonstrated this past year in operations from Kosovo to the South Pole. However, too many years of high operations tempo, aging equipment, lack of spare parts and engines, and the cumulative effect of chronic underfunding threaten the Air Force's near-term readiness levels.

Our aggregate readiness levels are tied to upkeep of equipment, training and ranges, and mission-related infrastructure. We are making progress in all these areas, but challenges remain.

Upkeep of Equipment

Greatly increased deployments since 1990, aging aircraft, problems in funding spares through most of the 1990s, and low retention of maintenance technicians in recent years have

combined to cause a 9.9% drop in mission capable rates over the Air Force fleet since 1994. As discussed below, since 1997, the Air Force has addressed a number of issues relating to spare parts. As a result, non-mission capable rates relating to spares (NMCS) appear to be stabilizing. Unfortunately, low retention of maintenance manpower caused by very heavy workloads and deployments has caused a 2.1% increase in non-mission capable for maintenance (NMCM) rates since 1994. For example, maintenance manning at the journeyman Senior Airman level has decreased from 100% in FY94 to 71% in FY99. In addition to the retention initiatives that apply throughout the Air Force, we are working to increase maintenance manning through both retention and recruiting incentives and ultimately by increasing the manning throughout our maintenance career fields.

We have a multi-faceted strategy to improve the materiel system that supports equipment readiness. First, we have fully funded "depot level repairables" accounts, which are used by operating units to "buy" spare parts from DoD and Air Force sources. Second, we increased inventory levels of critical spares by increasing the obligation authority of certain Working Capital Funds, and we are programming budget authority to pay for these spares as they are delivered. Third, we are working to consolidate Air Force depots and to make the parts system more efficient, to keep down the cost of spare parts. Unfortunately, the consolidation is itself causing near-term spares problems. Fourth, we are modernizing critical subsystems in our older aircraft where it is no longer cost effective to make repairs on individual components, or where manufacturing sources for component repair are no longer available.

Spares Funding

Adequate spare parts are essential for ensuring our equipment remains combat ready. Spare parts shortages, arising from funding problems in the 1990s, were a major contributor to the Air Force's readiness decline over the past several years. Downsizing of the Air Force spare parts inventory went too far. Supply systems were pushed to the limits as Air Force units deployed more often. As a result, the non-mission capable rate attributed directly to supply shortfalls increased from 8.6% in FY91 to 14% in FY99.

In FY99-01, Congress, DoD, and Air Force took specific actions to address shortfalls in spare parts funding. In FY99 and FY00, Congress supported the spare parts recovery with an increase of $194M and $85M, respectively. Additionally, the Kosovo Emergency Supplemental added $387M to spares for surge and reconstitution efforts. Consistently, DoD and Air Force committed to the obligation authority to match these resources, and to the $382M required to resolve the bow wave shortfall that had accumulated over the past several years. Also in the Air Force FY00 and FY01 President's Budget, we fully funded the spare parts validated requirement. Currently, we are completing an analysis of Kosovo lessons learned and thorough review of RSP kit levels, and other spare part levels, to ascertain the criticality of increases in this area.

Anecdotal evidence indicates progress is being made in availability of spare parts, although masked to some extent by increased requirements due to Kosovo and disruptions in parts supply due to BRAC-directed workload transitions. The Air Force supply business area, for example, saw an upward turn in almost all its FY99 performance metrics when compared to its FY98 results. Backorders fell from a peak of 615,000 in December 1998 to 374,000 by the end of FY99 (39% reduction). We are now working hard with major vendors to cut the

elapsed time between the date a part is ordered and the date it is delivered, so we can turn dollars into parts in less than the historic 18-24 months.

We have also seen a trend toward stabilization in total NMCS rates. The overall Air Force rate increased only 0.1% from FY98 to the end of FY99, even though we fought a major theater war in Kosovo in the middle of FY99. Monthly NMCS rates also held fairly steady over the past 12 months. Unfortunately, there continue to be "technical surprises" that dramatically reduce mission capable rates in individual weapons systems. For example, late in 1998, all C-5 aircraft were inspected and some were grounded because of a crack found in a major structural member in the tail. In September and October 1999, C-5 mission capable rates dropped because of problems with the newly fielded FMS-800 modification/upgrade to avionics. At the same time, inspections of KC-135 aircraft disclosed problems with stabilizer trim brakes, which caused inspections, groundings, and ultimately a shortage of KC-135 stabilizer trim assemblies.

We anticipate that the improved spare parts funding in the remainder of the FYDP will arrest the decline in NMCS rates.

Spares Inventory

In the early 1990s, the Air Force changed from three-level maintenance to two-level maintenance in an effort to cut operating costs. Under two-level maintenance, operating units no longer make repairs at the base level. Instead, spares parts are sent back to depots for repair, receiving a repaired part in return for a defective part. Theoretically, the combination of fewer inventory points and better transportation would reduce the requirement for spare inventories. In fact, efficiency gains were much lower than projected, with the result that the Air Force inventory system has been short of spare parts for some time. To rectify this, the Air Force received approval from DoD in FY99 to add to spare parts inventories through an increase in working capital fund obligation authority of $381.8M. These funds were put on contract in FY99, with anticipated deliveries through FY02. At the same time, $135M was added for the Oklahoma City Air Logistics Center (ALC) because of increased sales at that center.

During Kosovo, depots and contractors surged to provide increased parts support to the units flying Operation ALLIED FORCE. When that operation ended, Air Force senior leadership made a decision to keep the depots in surge until the end of FY99 to ensure that there were enough parts to take care of maintenance that was deferred during the war. The depot surge was funded with $387.3M FY99 obligation authority, pending the release of Kosovo supplemental funding.

The result of these three efforts is to increase depot level repairable item inventories by $904M, which should lead to an improvement in stockage effectiveness and a reduction in repair times in Air Force depots as parts are delivered against these funds.

Consumable spare parts have also caused mission outages. Consumables are managed by the Defense Logistics Agency (DLA) in support of all the Services. While DLA has an average stockage effectiveness level of 85%, that level has been much lower for aviation spares which tend to be high cost, low demand items. This situation has resulted in operational aviation units and depots in both the Air Force and Navy receiving increasingly lower rates

of support, resulting in a devastating impact particularly on engine readiness. DoD has recognized this situation and directed DLA to take immediate corrective action. In response, DLA added $500M for consumable aviation spares across the FYDP, including $100M in FY01. Action was also taken to accelerate the ordering process, through the working capital fund, in order to guarantee more rapid deliveries in FY01.

Depot Consolidation

Fiscal years 1998-2001 are a time of transition for Air Force depot maintenance, as two of our five principal depots complete the process of BRAC-directed closure and their workloads are transferred to our remaining depots and commercial sources of repair. The C-5, Sacramento, and Propulsion Business Area public-private workload competitions, which were a part of this process, resulted in estimated savings of over $2.6B over the life of the contracts.

In 1998, we began the move of competed workloads from our Air Force depots. The C-5 workload has now largely stabilized at Warner Robins ALC. The transition of A-10 and KC-135 heavy maintenance to Ogden ALC is essentially complete. However, significant challenges remain in moving the F100 engine workload to Oklahoma City ALC and the "commodities" workload (hydraulics, instruments, and a wide range of aircraft components) to Ogden ALC. At Oklahoma City, shortages of skilled workers, the sheer number of processes that must be transferred and proved, difficulties posed by proprietary technical processes, and the requirements of Kosovo have combined to slow the transition from original plans. At Ogden, shortages of skilled workers coupled with the need to move, reconstitute, and calibrate complex and sometimes delicate equipment has caused major disruptions in the ramp-up of production of commodities parts. In addition, the Kosovo conflict resulted in unusually high spares consumption rates, using up the spares that Sacramento had stockpiled for the transition period. The result has been shortfalls for many Ogden-repaired items.

The Air Force has taken aggressive action to correct technical data deficiencies, install and calibrate specialized support equipment, train the workforce, and streamline the production processes for the commodity workloads. By December 1999, the commodity production at Ogden ALC had reached a level almost equal to the previous Sacramento ALC production output. Ogden has established a "get well" target of summer 2000 to produce commodities in sufficient quantities to significantly reduce customer backorders and satisfy mission capable requisitions. In the interim, "bridge contracts" with commercial suppliers have been put in place to mitigate production shortfalls.

We believe that the consolidation of workloads will ultimately lower costs by increasing efficiencies in the remaining three Air Force depots. With the turmoil of the BRAC years behind us, we are beginning to see the promised gains. All Air Force depots performed remarkably well in FY99, considering that over 35% of the total workload was in transition and that the remaining depots were engaged in extensive hiring and training of new personnel while meeting the surge demands of Kosovo.

Schedule performance improved in FY99, as the time needed for aircraft repair dropped for the second consecutive year. The elapsed time for aircraft to move through the entire depot repair process, measured in flow days, was reduced by an average of more than 30%. For

example, flow days per aircraft for the F-15, C-5, C-130, and C-141 were reduced ranging from 15 to 82 days. F-16 and B-1 flow days were cut by 22 and 24 days, respectively. Depot Maintenance financial management also improved in FY99. Revenue was higher than expected primarily due to increased Kosovo commodity repair requirements. Due to prudent management, expenses, which were only slightly higher than planned, were more than offset by increased revenue. As a result, the FY99 profit objective was exceeded by over $60M, where there had been losses in the hundreds of millions of dollars in many prior years.

Finally, a word must be said about the work of the depots during Kosovo. The Air Force responded to Kosovo by surging its depots. The depots implemented temporary duty recalls, scheduled additional shifts, weekend hours, and accelerated contractor and depot repair operations. These extraordinary actions increased depot production of commodities, engines, and aircraft by 500,000 hours and ensured support to units performing peacetime missions while satisfying operational requirements of the conflict. The Air Force continued the surge through the end of FY99 to support reconstitution and recovery of our combat units and to reduce existing backorders. We are extremely proud of the men and women who worked weekends and evenings to support the warfighters in the field.

Equipment Modifications

The age of Air Force weapons systems is unprecedented. This year the average age of our aircraft is 20 years. Under current modernization plans, the average age will increase to 30 years by 2015. The cost of maintaining this older equipment is growing. Fatigue, corrosion, and parts obsolescence are driving up the costs of maintaining older planes and reducing overall equipment readiness. Worse, the industrial base that supports older aircraft is drying up, as aerospace companies leave niche markets, particularly in electronics, where commercial systems have long ago abandoned technology still in use in the Air Force. If the Air Force is to continue making readiness affordable — indeed, possible — we must balance the cost of maintaining weapons systems against the cost of replacing major subsystems or the weapon system itself. With our large transport aircraft and bombers, it has proven both feasible and cost-effective to replace subsystems rather than complete aircraft. What we have attempted to do is to group related modernization efforts into “campaigns” where the work on many systems will be performed during one maintenance cycle. This reduces overall costs, while limiting the number of aircraft out of service at any one time. Modernization programs of this type include:

- The Pacer CRAG program which replaces or modifies radar components, provides a GPS-based navigation system, and adds the Traffic Collision and Avoidance System (TCAS), as well as navigation modifications required to meet the Global Air Traffic Management (GATM) system standards;

- The C-130 Avionics Modernization Program (AMP), to go on contract in 2000, incorporates navigation safety, GATM, and expanded TCAS systems into a completely revamped “glass” cockpit; it also replaces the APN-59 radar system with a more capable and cost-effective radar;

- The C-5 AMP, which has already begun, provides a modern “glass” cockpit and replaces the avionics, radios, and flight computers; and

- The C-5 Reliability Enhancement and Re-engining program, scheduled to begin engineering design in FY00, includes upgrades for engines, hydraulic, pressurization, airframe, electrical, and landing gear systems.

In the bomber fleet, the B-52 and B-1 have modernization efforts planned. Both are experiencing aging aircraft problems, and require extensive upgrade programs, particularly in the avionics arena. The following are the major planned modification efforts for the bomber fleet:

- The B-52 Avionics Midlife Improvement (AMI) program will upgrade the aircraft's offensive avionics system (OAS) while preserving all current B-52 combat capability. Because the current offensive avionics system is based on 1970's technology, it is suffering from obsolescence and supportability problems. The AMI program will upgrade the OAS by replacing three line replaceable units (LRUs) and developing new aircraft software;

- B-1 mission capable (MC) rates have steadily declined since FY96. The "MC Rate Red Team" has been established to determine the reasons for the decline and develop a program to improve B-1 performance;

- In addition, programs are currently in place to fix problems on the B-1. The Defensive Systems Upgrade Pro-gram will replace aging components with a newly developed, joint Navy/ Air Force Integrated Defensive Electronic Counter Measures (IDECM) system, scheduled for initial qualification in the spring of 2000. The communication system on the Block D models will be upgraded this year to correct a problem with bleed over in both plain and encrypted text. Finally, a study is being conducted to look into a problem with unacceptably high numbers of retained weapons, or "hung stores".

In the fighter fleet, there are two kinds of modernization efforts. The first is service life extension programs for the A-10 and F-16 fleets. These include avionics and structures modifications. The second type of program involves capability improvements, which not only provide improved lethality, but frequently have the added benefit of reliability and maintainability improvements through more modern avionics components. Continued funding for these and other modification programs is critical to ensure our weapons systems are ready and able to meet future contingency tasking. Examples of major modifications for both the A-10 and F-16 fleets, as well as a cost-of-ownership reduction plan for the F-117, are as follows:

- The F-16 Falcon Flex program replaces the most unreliable and obsolete radar components while significantly reducing the ownership costs;

- F-16 electronic countermeasure and navigation systems are also receiving upgrades;

- Falcon UP and the planned Falcon STAR programs include numerous depot level structural modifications required to extend the service life of all F-16 aircraft to 8,000 hours;

- The F-16 CUPID program is bringing our older F-16s (Blocks 25-32) new life by adding night vision equipment, enhanced avionics, and the ability to carry an infrared targeting

pod and laser-guided munitions. Ultimately, CUPID-modified aircraft will have the capability to carry JDAM and other GPS-guided munitions;

- The A-10 Hog Up program will inspect, repair, replace and overhaul many structural and mechanical systems; it is the first step to enable the aircraft to remain viable until the year 2028. The Hog Up configuration is the required baseline for the Aircraft Structural Integrity Program, which will allow the A-10 to reach a service life of 16,000 hours; and

- The F-117, the world's first operational low-observable (LO) combat aircraft, is participating in the Single Configuration Fleet (SCF) program. The goal is to reduce the total ownership costs of the F-117 by standardizing the fleet to a single optimized spray/sheet coating and edge configuration. This will reduce LO maintenance requirements and take advantage of state-of-the-art robotic technology.

Engines : A Special Case

The Air Force has made significant progress to stop the decline in engine readiness. Improved engine funding, engine life management planning, and better partnering with vendors have contributed to slow but steady readiness improvements in most of the Air Force engine fleet. However, technical surprises, forecasting, spare parts problems, and a lack of experienced manpower still prevent us from meeting our wartime spare requirements for approximately 25% of our systems.

The Air Force is taking action to rectify this situation. Ongoing F-16 engine safety upgrades and modifications have been accelerated by two years to correct six of the most serious technical problems and reduce the risk of engine-related accidents. In addition to the F-16 safety upgrades/modifications, we have been working several other initiatives to upgrade and modernize aircraft engines. The TF39 engine, which powers the C-5 aircraft, is currently undergoing a high-pressure turbine modification which greatly improves reliability. Approximately $31M will be spent to upgrade the T56-7 to the -15 configuration on the C-130 aircraft. Nine additional KC-135s are programmed for reengining starting in FY02 and beyond, funded at approximately $263M. Over $225M in the FYDP is programmed for modernization of the oldest (F100-100 &-200) F-15 engines. Finally, the engine problems in the T-38 aircraft are being addressed with almost $289M in the FYDP for J85 engine modernization and other propulsion upgrades.

Improvements have been made in partnering with vendors to reduce the spare parts acquisition lead time. For example, the GE engine contract reduces acquisition lead time from more than two years to 90 days on catalog items. In addition, the Air Force has identified the need for additional engine manning requirements and will address these in future Air Force budgets.

Training

Training a quality force is instrumental to our readiness. From the day airmen and civilians join our team, we invest in their education and training to prepare them for today's demanding operational environment and tomorrow's challenges. Over the past few years, we have introduced several new programs to further hone our military skills and understanding.

For our new airmen, Warrior Week at Basic Military Training provides a realistic, weeklong exercise at a bare-base site. This program introduces airmen to the expeditionary nature of today's Air Force and serves as a transition from a classroom environment to the real-world, high-stakes environment typical to our deployed forces. Participants experience, first hand, the challenges associated with deploying to a bare-base location, setting up an operating base, implementing force protection measures, and commencing operations, all under austere living conditions. Similarly, Air Force Academy cadets are introduced to the expeditionary nature of today's Air Force by participating in Global Engagement week at the United States Air Force Academy. Initial skills training for the enlisted corps is also essential for mission accomplishment in an Expeditionary Aerospace Force. Upon completion of basic military training, all enlisted personnel attend initial skills training and receive their copy of the Airman's Manual, an operational handbook. The Mission Ready Airmen and Mission Ready Technician programs are designed to prepare an apprentice to accomplish the basic technical skills necessary to perform in his or her specialty.

The Aerospace Basic Course (ABC) provides new officers and civilians a foundation in the profession of arms and a working knowledge of the unique contributions of aerospace power. Through this entry-level professional military education program (PME), Air Force lieutenants and key civilians gain a deep appreciation of Air Force values, history, doctrine, and the skills required to operate and fight from austere, forward bases, fully exploiting the medium of aerospace for the joint force.

The Air Force develops its leaders deliberately, using a proven process that exposes them to Air Force and joint operations, PME, and increasing command and staff responsibilities. The depth of an airman's expertise is developed through a series of operational assignments that make him or her an aerospace power authority. Having always placed a premium on education for officers, enlisted members, and civilians, our PME system prepares leaders for the challenges they will face in their immediate future. As airmen progress through their careers, the Air Force competitively selects the very best to command and lead its squadrons, groups, and wings. The Air Force relies on a comprehensive series of additional leadership and command courses to supplement continuous mentoring that produces leaders who are able to make the right decision, whether in peace or war.

Operationally, the Air Force continues to train its aircrews and support personnel by participating in numerous joint and combined exercises around the world. These training opportunities encompass both field exercises and simulations. Distributed Mission Training (DMT) holds great promise. Using state-of-the-art simulation technology, DMT permits aircrews to train in synthetic battlespace, connected electronically to other aircrews at distant air bases. Importantly, DMT delivers this enhanced training from the home station, helping the Air Force limit the amount of time airmen spend deployed and facilitating the training of AEFs as they prepare for deployment. Multiple aircraft Mission Design Series (MDS) are currently under development for DMT. An initial delivery of F-15C Mission Training Centers (MTC) has been configured at Langley AFB, VA, and Eglin AFB, FL, and will reach full operational capability in mid 2000. Contracts for new F-16 and AWACS DMT simulators have been awarded and are expected to be delivered this year.

Air Force civilians are an integral part of the aerospace team. They work side-by- side with airmen in some operational roles, as well as most support roles. They play an essential part in the development and acquisition of the aerospace and information technologies that will

maintain the Air Force's dominance. The active component drawdown will increase their presence in non-military essential functions and senior leadership positions across the Air Force. To prepare them for the 21st century, the Air Force is making a concerted effort to integrate military and civilian training, to the greatest extent possible, and to streamline human resource development services to simplify and speed delivery of cost-effective training to the Total Force. In addition, the Air Force is engaged in a top-to-bottom review of professional development, training, and education for managers and executives; general work force proficiency, specialized, and career progression training and education to maintain minimum skill and currency; and the development of wage grade supervisors and employees in the trade, craft, and technical maintenance fields. We have increased opportunities for professional development through PME, developmental assignments with increasing command and staff responsibilities, and through participation in the Defense Leadership and Management Program (DLAMP). The goal is to produce technically proficient civilians who are well versed in Air Force missions, structures, and doctrine.

Modernization

At the beginning of the last century, a relative few shared a vision and dream of flight. Today at the dawn of a new century, the men and women of the Air Force share a common vision of becoming a light, lean, and lethal Expeditionary Aerospace Force. The Air Force Modernization Program is a critical enabler of that vision. We will leverage technology to improve combat effectiveness through upgrades of legacy systems, selective new starts, and investment in critical technology programs for advanced systems. This revolution in military affairs we are undertaking requires a revolution in business affairs. The Air Force will continue to lead the way in acquisition reform, using proven commercial and industry practices. We will develop and deliver new technologies and weapon systems more quickly and cheaper than traditional DoD methods have allowed in the past.

Our challenge in formulating the modernization strategy is how best to balance our sustainment and modernization efforts given the constraints we face and the needs of the warfighter. Currently 60% of Air Force Total Obligation Authority is spent on sustainment and 40% on modernization. We have funded both modifications and procurement as highlighted in the tables on page 57.

The Air Force's long range vision to become a light, lean, and lethal Expeditionary Aerospace Force complements Joint Vision 2010-the conceptual template for how America's Armed Forces will channel the vitality and innovation of our people and leverage technological opportunities to achieve new levels of effectiveness in joint warfighting. Thus, our modernization focus is synchronized with Joint Vision 2010. Now we must carefully execute our modernization plan to extend our position as the world's preeminent aerospace power.

Full Spectrum Dominance

Full Spectrum Dominance is required to provide the joint force freedom from attack, freedom to maneuver, and freedom to attack at a time and place of our choosing regardless of weather. Key to this is the Air Force's current high-low mix fighter force structure. This high/low fighter force structure is based on a high capability fighter, the F-15 now and the F-22 in the future, to provide air superiority and a low cost fighter, the F-16 now and the JSF in the future, in large numbers for attack capability. Another key is the heavy bomber force, adding prompt global reach independent of theater basing constraints and high-mass precision engagement capability. America displayed its current aerospace dominance with the success of Operation ALLIED FORCE in Kosovo. Maintaining and improving the Air Force's ability to achieve future Full Spectrum Dominance is a primary objective of the Air Force Modernization Program.

Aerospace Superiority

The ability to control the vertical dimension so the joint force is both free from attack and free to attack is the key to achieving Full Spectrum Dominance. In the 21st Century, aerospace superiority will depend on the F-22 Raptor to defeat enemy aircraft; the Space-Based Infrared System (SBIRS) to provide early warning of long range hostile missile threats; and the Airborne Laser (ABL) to provide a credible defense against theater ballistic missiles.

The F-22 Raptor is the replacement for the F-15. The F-22 will dominate the vertical battlespace of the 21st Century with its revolutionary combination of stealth, supercruise, maneuverability, and integrated avionics. The F-22, armed with the AIM-9X infrared short range air-to-air missile, an improved AIM-120 AMRAAM missile, and the Joint Direct Attack Munition will be able to destroy threats to our forces in the air and on the ground when it enters service in December 2005. In 1999, the F-22 logged its 500th flight test hour, continuing flight envelope expansion, successfully demonstrating supercruise and high angle of attack post-stall flight with thrust vectoring. The F-22 avionics program also made major strides with the early delivery of the Block 1 software to the manufacturing line for installation in the first avionics test aircraft. Testing of future versions of F-22 software was also initiated in the one-of-a-kind F-22 flying test bed with the delivery of Block 2 in October. The unique capabilities of the flying test bed to check out, modify, and verify software performance prior to F-22 flight testing will enable the rapid introduction and check out of Block 2 and Block 3 avionics in CY00 and the initiation of F-22 Block 3 fight testing.

The F-15C/D will remain the Air Force's lead air superiority fighter until the F-22 is operational. It is being upgraded to add increased reliability and enhanced capabilities. These upgrades include the APG-63(V)1 radar providing greatly improved reliability; the APG-63(V)2 Advanced Electronically Scanned Array (AESA) radar providing improved performance; the Joint Helmet Mounted Cueing System and AIM-9X missile providing a first shot/first kill capability in the within-visual-range arena; enhanced combat identification for beyond visual range identification of airborne targets. Forty-eight F-15C/Ds deployed in support of Operation ALLIED FORCE and shot down four MiGs.

The Air Force is a major contributor to DoD's tiered architecture to counter the ever-growing theater ballistic missile and cruise missile threats. This architecture is based on an integrated capability to detect, classify, intercept, and destroy or negate the effectiveness of enemy missiles prior to launch or while in flight. This capability is vital to protect U.S. and coalition

forces, high-value assets, and population centers within an assigned theater of operations. Numerous Air Force programs and systems discussed throughout this document contribute to this architecture. The SBIRS and the ABL programs are critical in addressing the theater ballistic missile threat. The Air Force is aggressively pursuing new technologies within our laboratories to counter the emerging cruise missile threat. Many of these technologies have been transitioned to current weapon systems. The Radar System Improvement Program (RSIP) for the E-3 Sentry Airborne Warning and Control System is one example, and the F-22 with its advanced radar and sensor fusion capabilities will capitalize on the newest technologies for cruise missile defense.

The SBIRS includes both high and low components that will provide missile warning to national and theater commanders. It will improve our capability to detect and track theater missile launches, cue missile defense systems, and contribute to the characterization of the theater battlespace and the technical intelligence missions.

The integrated SBIRS architecture incorporates a "systems of systems" concept that provides information for target acquisition, cueing and track data to interceptor systems, and a defense battle manager. This cueing effectively extends an interceptor's range and effectiveness over autonomous radars alone. The SBIRS constellation consists of highly elliptical orbit (HEO), geosynchronous orbit (GEO), and low earth orbit (LEO) spacecraft that receive and transmit data to an integrated ground system.

The SBIRS program has four associated increments. Increment 1 consolidates Defense Support Program (DSP) ground processing into a master control station located at Buckley ANG Base in CO. Increment 2 consists of two HEO sensors and four GEO satellites with first launch in FY04. Increment 3 will be comprised of 24 LEO satellites with first launch in FY06. Increment 4 will optimize the entire system and define requirements for further deployment.

The ABL will be a key Air Force contributor to the Nation's multi-layered theater missile defense architecture. It is DoD's only boost phase intercept system-with a planned fleet of seven operational aircraft. Last year, the Air Force successfully tested an improved version of its flight-weighted laser module and also demonstrated the baseline version of the battle management software. Just this past January, ABL accepted delivery of its first 747 aircraft, with modifications set to take place through early 2002. ABL is on track for a lethal demonstration against a theater ballistic missile in FY05.

Global Attack

Global Attack assets allow our Nation to successfully conduct military operations across the spectrum of conflict. Global Attack programs include modernization of the Minuteman III intercontinental ballistic missiles (ICBMs), B-1, B-2, and B-52 bombers, and F-15E, F-16, and F-117 fighters. Coupled with precision-guided munitions, these platforms produce a potent force for deterrence of both nuclear and conventional conflict.

The Air Force is continuing to fund several ICBM modernization programs designed to extend the operational life of the Minuteman ICBM weapon system beyond 2020. The Guidance Replacement Program (GRP) is replacing failing Minuteman guidance system electronics, while the Propulsion Replacement Program (PRP) is remanufacturing all three

Minuteman solid fuel stages to correct age-related degradations and maintain weapon system reliability. A GRP full rate production contract was awarded in December 1999, with a full rate production decision on PRP scheduled for September 2000. The PRP first asset delivery to Air Force Space Command is scheduled for March 2001.

The current bomber inventory includes 94 B-52s (built 1960-1962), 93 B-1s (built 1980-1986), and 21 B-2s (built 1988-1999). The B-1s are assigned to five main operating bases, including the two Air National Guard at McConnell AFB, KS and Robins AFB, GA. This mix of bombers provides the capabilities required to meet Air Force commitments — each can attack from the U.S. The B-2 can penetrate against high-value, heavily defended targets; the B-1 is the conventional interdiction workhorse and can penetrate for high volume direct attack in a medium threat environment; and the B-52 equipped with CALCMs provides long range standoff precision and direct attack in a low threat environment.

The B-2 can meet any global power projection mission, anytime, anywhere. The Air Force continues to make improvements to the maintainability of the B-2's low-observable coatings and integrate advanced weapon systems beyond the Joint Direct Attack Munition (JDAM) used successfully by the B-2 over Kosovo, to include the Joint Standoff Weapon (JSOW), Joint Air-to-Surface Standoff Missile (JASSM), and EGBU-28. The B-1 and B-52 continue to provide firepower to the joint force. Upgrades to the B-1 include the capability to carry JDAM and improved defensive systems; a small number of B-1s are already JDAM capable. The B-52H is now operationally capable of employing JDAM; communications and navigation system upgrades will keep it viable through 2040. An Air Force Reserve (AFR) unit operates and trains in the B-52H, providing significant value to wartime mission readiness. The Reserve is evaluating upgrades to improve the B-52H bomb bay camera that will allow crew members to effectively perform safety inspection for unspent munitions after bombing operations. Both the B-1 and B-52 are being upgraded to carry JSOW and JASSM.

The bomber force made significant contributions to Operation ALLIED FORCE. It delivered over 6 million pounds of ordnance and struck over 50% of all Allied Force targets. The B-2 destroyed 11% of the total targets while flying only 1% of the total sorties. The B-1 flew 100% of sorties assigned and proved the performance of the ALE-50 towed decoy to negate the effects of enemy fired surface-to-air missiles. The B-52 maintained a 98% mission capable rate and led the attack with CALCMs. The use of data links will greatly enhance flexible targeting capabilities, and coupled with the sustained use of precision-guided munitions, will increase the lethality of these EAF forces.

The F-15 Eagle and F-16 Falcon, the Air Force's legacy fighters which entered the service in 1975 and 1980 respectively, provide a potent mix of air-to-air and air-to-surface capability. Operation ALLIED FORCE reinforced the Air Force's need to ensure a viable fighter force structure until legacy systems are replaced. While the F-15E provides significant air-to-air capability, it is optimized for the air-to-ground mission. Future planning calls for a replacement for the F-15E to be procured in the 2015 timeframe. In the interim, the Air Force continues F-15E modernization activities. Improvements are planned for electronic defenses, computers, and the addition of a fighter data link. Twenty-four F-15Es deployed in support of Operation ALLIED FORCE, and expended more than 2.7 million pounds of bombs and missiles in target destruction.

One hundred F-16 Block 40/50 aircraft participated in Operation ALLIED FORCE and delivered over 4,000 bombs on target. The principal lessons learned were the need for Night Vision Goggle (NVG)-compatible aircraft lighting, improved precision targeting pod capability, and an air-to-air interrogator. Kosovo also reconfirmed the need for the present major modernization programs for the Block 40 and 50 aircraft covered under the Common Configuration Implementation Program (CCIP). CCIP includes a new aircraft computer, color displays, Joint Helmet Mounted Cueing System (JHMCS), AIM-9X, Link-16, and NVG-compatible aircraft lighting. The new aircraft computer increases capacity and throughput and solves diminishing manufacturing source problems while enabling the use of future weapons systems. Color displays will present aircraft and combat information to the pilot more effectively for easier interpretation as compared to the present monochrome displays. The JHMCS provides the off-boresight missile targeting capability to employ the AIM-9X, the future high off-boresight air-to-air missile. Link-16 will provide the pilot improved combat situational awareness and NVG-compatible aircraft lighting will provide a permanent modification to the aircraft to allow the unencumbered use of NVGs. Additionally, the Block 50s will receive an air-to-air interrogator capability and the ability to carry both a targeting pod and the HARM targeting system pod to better conduct the suppression and destruction of enemy air defense (SEAD/DEAD) missions. One of the major modification programs for the F-16 Block 25-32 aircraft, principally flown by Air National Guard (ANG) and Reserve, is known as Combat Upgrade Plan Integration Details (CUPID). CUPID consists of four separate upgrade programs: Global Positioning System integration, countermeasure systems mechanization, Situation Awareness Data Link (SADL), and NVG-compatible aircraft lighting. Global Positioning System integration will provide the ability to accurately deliver smart munitions. The improved Counter-Measure System mechanization will enhance the self-protection capability. Situation Awareness Data Link (SADL) will provide the pilot improved combat situational awareness. NVG-compatible aircraft lighting will enhance the aircraft's night combat role.

The Joint Strike Fighter (JSF) is the "low end" of our high/low affordable fighter mix philosophy — ensuring sufficient quantities of very capable attack aircraft to give the U.S. dominant force across the spectrum of conflicts. The JSF program will develop and field a highly-common family of next-generation strike fighter aircraft for the Air Force, Navy, Marine Corps, and our allies. Current program emphasis is on facilitating the evolution of fully validated and affordable joint operational requirements, demonstrating cost-leveraging technologies and concepts, and completing the Concept Demonstration Phase. First flights of the contractor demonstration aircraft are scheduled for the spring of 2000. The Engineering and Manufacturing Development phase will begin in FY01.

The F-117 Nighthawk plays a key role in global attack as it penetrates dense threat environments and delivers precision weapons against high-value, highly defended, and time-critical targets. The Air Force continues to modernize this weapon system to improve capability, survivability, and sustainability in the 21st Century. The top modernization program is Single Configuration Fleet (SCF), which provides the fleet with a single radar absorbent material configuration, reducing maintenance man-hours by 50 %. The need to employ precision, all-weather, GPS/INS weapons was reinforced during Operation ALLIED FORCE; this capability is included in Block Cycles 1 and 2 upgrades. The smart weapons program will incorporate all-weather JDAM, WCMD, and the EGBU-27. Operation ALLIED FORCE highlighted the need for smart weapons on the F-117 as over 50% of the F-117 sorties were cancelled for weather, impacting the ability to deliver ordnance.

Modern warfare has led to an increase in airborne combat under the cover of darkness. To "Own the Night," the Air Force is pursuing a multi-faceted strategy. First, we are upgrading our F-16 aircraft with the Night Vision Imaging System (NVIS). This upgrade ensures the aircraft internal and external lighting is compatible with night vision devices. Second, we are procuring and fielding F-4949 and AN/PVS-7 Night Vision Goggles for our air and ground personnel. Third, we are developing the next-generation of NVGs called Panoramic Night Vision Goggles (PNVGs). For the Block 25-32 F-16 aircraft, the LITENING II Pod procurement is the number one priority program undertaken by the Reserve and Guard from FY99 to FY04. In addition to LITENING II Pods, the Reserve is planning to procure more advanced Multi-Function Displays for its F-16 fleet starting in FY01. These efforts will effectively enable the Reserve to meet modern combat standards and better serve as a member of the Total Force. All of these modernization activities will significantly improve personnel safety, operational tactics, and mission effectiveness.

The Air Force is also actively upgrading laser eye protection for aircrew and ground personnel from a wide range of lasers. The Air Force initiated a three-phase Engineering and Manufacturing Development program in FY99 to counter this emerging threat. The threat includes military lasers, commercial lasers, and foreign lasers specifically developed to damage the eyes or cause temporary vision loss. The ultimate goal in developing laser eye protection is to provide full retinal coverage at any angle, while allowing visibility of the aircraft cockpit displays and good light transmission for use in night operations. The FY01 President's Budget includes $13.8M to procure over 26,000 devices.

Precision Engagement

As shown in Operation ALLIED FORCE, theater commanders must have the ability to strike targets precisely in adverse weather conditions while minimizing risk and collateral damage. The Air Force's new generation of guided weapons uses the Global Positioning System (GPS), coupled with an inertial navigation system (INS), to put bombs on targets precisely, night or day, in all weather conditions. Because our legacy precision- guided munitions (GBUs/LGBs) can generally be employed successfully only in clear weather, the Air Force is upgrading limited quantities with GPS/INS guidance units giving them an immediate all-weather capability. The Conventional Air Launched Cruise Missile (CALCM), Joint Air-to-Surface Standoff Missile (JASSM), Joint Standoff Weapon (JSOW), Joint Direct Attack Munition (JDAM), and the Wind-Corrected Munitions Dispenser (WCMD) are among the Air Force's high-priority precision engagement programs.

CALCM is a long-range, large payload cruise missile employed by the B-52 against high priority and heavily defended targets. CALCM continues to be the CINC's first strike weapon of choice during contingency operations, as demonstrated by its superb performance during Operations DESERT FOX and ALLIED FORCE. Current replenishment programs will convert an additional 322 ALCMs to CALCMs by July 2001. Future plans call for the initiation of an extended range CALCM (CALCM-ER) program to fill mid-term long-range cruise missile needs.

JASSM is a highly accurate, stealthy, standoff missile employed by both fighters and bombers to destroy heavily defended, hard, fixed, and relocatable targets with virtual impunity. As a result of acquisition reform, the JASSM price is one quarter of the cost, and

its development schedule is half the time, of similar missile programs. JASSM is currently undergoing flight tests during Engineering and Manufacturing Development and is scheduled to begin production deliveries in 2003 with 768 JASSMs purchased by the end of the FYDP.

JSOW is an accurate, adverse-weather, glide munition, which was successfully employed in Kosovo and Iraq in 1999. The Air Force will use it to deliver cluster munitions that seek and destroy armored and soft targets at ranges up to 40 nautical miles. We are buying two variants: the JSOW/A delivers 145 Combined Effects Bomblets and the JSOW/B delivers 6 BLU-108 anti-armor submunitions. We will procure 3,000 of the A variant and 3,114 of the Bs. We took our first JSOW deliveries in November 1999.

JDAM provides the Air Force the capability to deliver 1,000- and 2,000-pound, general-purpose and penetrator warheads in adverse weather with precision accuracy. We will use JDAM to destroy high-priority, fixed, and relocatable targets from multiple platforms. The first operational use of JDAM was from a B-2 during the first night of Operation Allied Force. The B-2/JDAM combination was 96% effective and targets attacked using JDAMs were damaged or destroyed 87% of the time. The current plan is to buy more than 40,000 JDAM kits from FY01-FY05, with a total program buy of approximately 62,000 kits.

The Miniaturized Munitions Capability (MMC) program is in the Concept Exploration phase with supporting work on-going in the laboratories. Two laboratory technology demonstrations being evaluated in the MMC program are the Small Smart Bomb (SSB) and Low Cost Autonomous Attack System (LOCAAS). SSB is a 250-pound to 500-pound class penetrator with GPS/INS and a terminal seeker. LOCAAS is a 95-pound mini-cruise missile with a LADAR seeker, a 3-mode warhead, and a miniature turbojet engine enabling a 100-km range and 30 minutes of search for mobile targets. The objective is to field adverse-weather precision munitions that are significantly smaller in size and provide increased combat effectiveness against fixed, relocatable, and mobile targets. This would enable carrying more weapons per sortie and increase sortie effectiveness, key to such aircraft as the B-2, F-22, F-117, and JSF where carriage is limited to the internal bay for stealth reasons. Interim results from the on-going Analysis of Alternatives (AoA) points to the MK-82 (500-pound) JDAM as a near-term low risk solution against fixed targets. With internal weapons rack modifications, B-2s and B-1s would be able to carry approximately 80 Mk-82 JDAMs per sortie, significantly increasing target kills per sortie.

Wind Corrected Munitions Dispenser (WCMD) is an INS-guided tail kit that enables us to accurately deliver dispenser weapons from medium to high altitudes. WCMD tail kit-equipped weapons are expected to be available in late 2000. We will buy 40,000 tail kits for integration with Sensor Fuzed Weapon (SFW), Combined Effects Munition, and the Gator mine dispenser.

The Sensor Fuzed Weapon, when mated with a WCMD, will provide a first time capability to accurately engage armored targets from medium to high altitudes. We plan to buy 5,000 SFWs, all of which will be mated with the WCMD.

This combination of next generation weapons provides a balanced force structure enabling our warfighting CINCs an unprecedented ability to attack targets with highly accurate weapons at any time of the day or night in adverse weather and survive the hostile environment well into the 21st Century.

Information Superiority

The capability to collect, process, and disseminate an uninterrupted information flow while exploiting or denying the adversary's ability to do the same, will be critical to success in future military operations. Integrating Command and Control, Intelligence, Surveillance, and Reconnaissance (C2ISR) assets enables the Air Force to leverage combat capabilities to the maximum extent. Our evolutionary modernization plan to support the EAF includes upgrades to many systems within the information superiority core competency.

A robust C2ISR infrastructure is key to providing an uninterrupted and timely flow of information. The Air Force has embarked on a study to analyze end-to-end bandwidth requirements, with the goal to ensure sufficient funding is programmed to meet warfighter requirements.

The Aerospace Command and Control, Intelligence, Surveillance and Reconnaissance Center (AC2ISRC) is the Air Force organization tasked to standardize and integrate Air Force C2 and ISR systems across joint and coalition systems and create a C2ISR investment plan that meets future challenges. AC2ISRC is working to rapidly identify, through joint experimentation, advanced capabilities to transition to the theater commanders that will enable them to get inside an adversary's operating cycle and use information against the enemy. AC2ISRC's key thrust is creating a "reach back" air operations center that provides modernized command and control through the Global Combat Support System (GCSS-AF) and the Theater Battle Management Core System (TBMCS) program.

JSTARS and AWACS provide theater commanders real-time, wide-area surveillance of enemy ground and air movements. The delivery of three aircraft in FY00 will increase the JSTARS fleet to eight aircraft. In addition, we are developing enhanced JSTARS capabilities through the Radar Technology Insertion Program (RTIP), which will significantly improve situational awareness and real-time processing of fixed and mobile targets. Air surveillance will also be improved when the AWACS fleet achieves initial operational capability with the Radar System Improvement Program (RSIP) in June 2000. RSIP provides increased detection range for low radar cross section targets.

The Air Force's Unmanned Aerial Vehicle (UAV) programs, Predator and Global Hawk, are maturing rapidly to support intelligence, surveillance, and reconnaissance operations. During Operation ALLIED FORCE in Kosovo, we took real-time video imagery from Predator and fused it with digital terrain data on the ground in Italy to produce highly precise target coordinates for our precision- guided munitions. These coordinates were then relayed to attack aircraft, typically in minutes. The potential for JSTARS-Predator integration was demonstrated by manually correlating data from both platforms—laying the ground work for future automated correlation and exploitation of the data. We also took Predator beyond its normal ISR mission and into the realm of attack operations by equipping it with a laser target designator. Although the laser designator has not been used in combat, it has been tested, and has the capability to allow laser-guided bombs to be dropped through weather. Air Combat Command is in the process of developing a long-range plan to incorporate a laser designator into the sensor package on all Predators.

The Air Force will continue to exploit the technological promise of UAVs and explore their potential uses over the full range of combat missions. At present, the Air Force has committed $80M across the FYDP to support

the Defense Advanced Research Projects Agency (DARPA) Phase II Unmanned Combat Air Vehicle (UCAV) Advanced Technology Demonstration (ATD), which is designed to answer multiple questions regarding the potential application of UCAVs throughout the spectrum of conflict, with emphasis on C2ISR feasibility.

Global Hawk is approaching the end of its Advanced Concept Technology Demonstration (ACTD). It is in the user demonstration phase and has achieved over 27 hours endurance on a single flight, reached over 66,000 ft. altitude and totaled nearly 500 hours of flight time. It has participated in several joint exercises, including an over-water flight to and from Alaska and transmitting imagery to ANG, Air Force, Navy and Marine Corps units. Following a Milestone II acquisition decision in late 2000, the Air Force will begin a one-year design update period and produce two post-ACTD air vehicles. The Global Hawk program will provide a cost-effective and useful system to the user at the earliest possible date through spiral development of platform, sensors, and other capabilities.

Global Hawk's first Outside Continental United States (OCONUS) deployment will occur March 2001 when it deploys to Australia under a 50/50 cost-share agreement with the Australian government. This will be Global Hawk's first opportunity to demonstrate its interoperability with a coalition ground exploitation system. Other nations have also expressed interest in Global Hawk and its capabilities.

When Global Hawk begins operations with Block 5 aircraft in FY03, it will be used to augment the U-2 fleet, enhancing the Air Force's overall ISR capabilities. In the long-term, the Air Force expects to improve Global Hawk payload capabilities to the point where it could fulfill many missions now executed by U-2 and JSTARS.

The U-2 and RC-135 Rivet Joint continue to be the primary DoD aircraft for ISR data collection to support the joint forces commander. The Air Force is currently upgrading the U-2's defensive system capabilities and synthetic aperture radar to provide near-real-time targeting capability for precision-guided munitions. The first reengined Rivet Joint is undergoing flight testing and will provide improved battlefield coverage as a result of higher altitude and longer loiter times.

Discoverer II is seeding the transformation to global space-based surveillance. The Air Force's Discoverer II partnership with the National Reconnaissance Office (NRO) and DARPA will develop and demonstrate space-based radar capabilities against time-critical moving ground targets in FY 2005. Discoverer II is a two-satellite R&D program that will demonstrate affordable satellite manufacturing by leveraging commercial processes, provide key enabling technologies for advanced radar payloads, and show the operational benefit of the deep-look, continuous, broad-area coverage space provides against an adversary's ground moving targets. Satellite design trade studies are ongoing by three competing contractor teams: Lockheed-Martin; TRW and Spectrum Astro; and Northrop-Grumman and Raytheon. Each team has successfully completed initial hardware tests for competing radar payload designs.

As the developer and operator of the Global Positioning System (GPS), the Air Force provides the world continuous position, velocity, and timing data in all weather, to an unlimited number of users, free of charge. For the Joint warfighter, GPS navigation information is being integrated into nearly all facets of the modern battlefield. The Air Force is modernizing GPS systems and fielding GPS navigation warfare upgrades that will ensure

continued U.S. and allied military access to GPS while preventing adversarial use and preserving civil use outside of an area of operations.

Modernization also includes transitioning the ground control segment from a legacy system to a distributed architecture that will facilitate full utilization of the increased capabilities being incorporated into the next generation of space vehicles. In order to address the evolving and expanding threats to GPS, the FY01 budget provides funding for the addition of a new military code and a high power spot beam on future satellites. The FY01 budget request expands the program from last year, providing additional power to military users in a region of conflict and providing military and civil signals on earlier satellites. This modernization program provides the warfighter with significant increases in protection of military GPS signals from intentional and unintentional interference, beginning with initial deployment of satellites and receivers equipped to process new military signals in the last half of this decade and growing to provide a worldwide robust system about 10 years later. Once fielding of the new equipment is complete, we will have a secure worldwide navigation and timing source for all our weapon systems, augmented by higher power signals in one or more theaters of operation simultaneously as required by senior unified commanders.

MILSATCOM systems, notably the Defense Satellite Communications System (DSCS) and Milstar, continually support contingency and current operations. These systems place powerful communication tools in the hands of battlefield commanders and warfighters around the world, enabling information reachback to CONUS, continuity with the National Command Authority, and intra-theater communications. Global Broadcast Service will replace DSCS. Advanced Extremely High Frequency (EHF) will replace Milstar in FY06.

Rapid Global Mobility

Modernization of the Air Force's mobility assets is integral to the daily execution of our National Security Strategy (NSS) and is integral to supporting the EAF concept. Acquisition of the C-17 Globemaster III through 2005 remains the flagship of airlift modernization. The C-17 will replace the C-141 Starlifter force. The Air Force has fielded 57 C-17s and key mobility studies could result in additional buys beyond the currently planned force of 135. The Mobility Requirements Study FY05 (MRS-05), an update to the 1995 Mobility Requirements Study/Bottom-Up Review Update, will determine the ultimate mix of end-to-end mobility assets. MRS-05 results are scheduled to be released in spring 2000. Using MRS-05 data, Air Mobility Command's Oversize and Outsize Analysis of Alternatives will determine the most cost-effective strategic airlift fleet mix to achieve our National Military Strategy from various postures of engagement. The Tanker Requirements Study for FY05, baselined from MRS-05, will determine the number of tankers needed to carry out the NSS.

The C-130 Avionics Modernization Program (AMP) and procurement of the C-130J will consolidate 20 C-130 aircraft configurations into two supportable configurations. AMP will install a state-of-the-art avionics suite to increase reliability, maintainability and sustainability of the C-130 fleet well into future, and eliminate the navigator and simplify training and operational employment. The program will make the aircraft Global Air Traffic Management (GATM) compliant and meet identified navigation and safety mandates.

The Air Force plans to procure the C-130J to replace its oldest 1960's vintage C-130Es. The C-130J will provide increased range, performance, and cargo capacity over the current C-

130E/Hs. The Air Force Reserve and Air National Guard C-130 fleet will undergo an extensive AMP that will be followed by a structural, engines, and environmental improvement program. The tactical airlift mission will continue its modernization transformation with the addition of C-130Js. Four C-130Js are being delivered to Reserve units this year while several more are on contract for future delivery.

The Air Force has begun a Large Aircraft Infrared Countermeasures (LAIRCM) initiative to counter increasingly prolific Man-Portable Air Defense Systems (MANPADS). LAIRCM will use state-of-the-art technology to provide active defenses for airlift- and tanker-sized aircraft against widely deployed shoulder-launched surface-to-air missiles. LAIRCM will build on existing systems designed for helicopters and small fixed-wing aircraft. It will add new missile warning and tracking systems to locate and direct the laser at an incoming missile. The laser will jam the missile, driving it away from its target. Operational capability is expected on the first C-17s in FY03, with C-130s receiving LAIRCM beginning in FY04. Additional airlift and tanker aircraft will be outfitted with this system later in the FYDP.

Equipping a limited number of aircraft with LAIRCM gives the Air Force an initial capability to support a small-scale contingency or other missions that require this additional IR missile protection. A major advantage of LAIRCM over traditional IR countermeasures is the ability to counter an incoming IR missile without deploying self-protection flares as currently used. This greatly reduces the complicated logistics and political sensitivities associated with the use of flares.

Whether employing on-scene Aerospace Expeditionary Wings or deploying contingency forces in response to a crisis, mobility assets make the difference in speed and stamina. Procurement of the 60,000-pound capacity (60K) Tunner aircraft loader and Next Generation Small Loader (NGSL) will replace aging equipment and significantly increase throughput and our ability to rapidly offload cargo from both military and commercial aircraft. We are moving forward with the application of space assets to enhance mobility operations via “In-Transit Visibility,” a satellite linked worldwide identification and tracking system.

KC-135 Pacer CRAG (Compass, Radar, and Global Positioning System) upgrades are replacing 1950’s technology compass and radar systems. Pacer CRAG eliminates the navigator on most missions, improves operational capability and reduces maintenance-related costs. The KC-135 is also being upgraded with TCAS (Traffic Alert and Collision Avoidance System) and TAWS (Terrain Avoidance Warning System), systems vital in today’s crowded skies. Pacer CRAG serves as the foundation for the Global Air Traffic Management (GATM) modification, ensuring unrestricted access to global airspace and will meet FAA and ICAO requirements.

C-5 Galaxy modernization continues to be a top mobility airlift priority to improve our global rapid response and delivery of outsize and oversize cargo. Improving C-5 reliability, maintainability, and availability while reducing operating costs are the cornerstone objectives to improving fleet capability. The Air Force has in place a multiphase modernization plan for the C-5. It includes an ongoing high-pressure turbine upgrade to the engines, an avionics modernization program to comply with new GATM requirements of the 21st Century, and a reliability enhancement and re-engining program.

Our procurement of the full complement of required C-17s and CV-22s; aggressive C-5, C-130, and KC-135 modernization programs; procurement of new ground handling equipment;

and global access, navigation, safety, and avionics upgrades to the entire mobility fleet will ensure Global Reach well into the 21st Century.

Likewise, the Evolved Expendable Launch Vehicle (EELV) will provide the Nation rapid access to space. EELV will institutionalize payload processing with a fleet-wide standard payload interface specification and standard launch pads. Key benefits include 24-month payload to booster build integration timelines (reduction of 50% over today's systems) and common mating procedures. EELV standard launch pads and pad operations will reduce on-pad cycle time to 1-9 days versus 60-180 days for current launch systems.

Boeing will develop a Delta IV family of launchers around a common core booster which will be powered by a new Boeing/Rocketdyne liquid hydrogen/liquid oxygen RS-68 engine. This 650,000-pound thrust engine is the first new liquid propulsion engine developed in the U.S. since Rocketdyne developed the space shuttle main engine in the early 1970s.

Lockheed Martin's family of launchers is also developed around a common core, which will be powered by the Energomash RD-180 liquid oxygen/kerosene engine. This 860,000-pound thrust engine is derived from the RD-170 engine currently used in the Russian space programs. The RD-180 is the world's highest specific thrust liquid oxygen/kerosene engine. It is reliable, demonstrated, and currently ready for its first launch of a commercial payload in a Lockheed Atlas III. To ensure a foreign supplier cannot deny the U.S. access to space, it is DoD policy that former Soviet Union propulsion systems must be converted to U.S. production prior to use for national security missions. The use of the Energomash RD-180 engine leverages Russian investment in developing over 50 new engines in the past 40 years, transfers unique Russian technology to U.S. manufactures, and provides a path for cooperative ventures between Russia and the United States.

Agile Combat Support

Through Agile Combat Support (ACS), the logistics and combat support communities create, deploy, sustain, and protect personnel, assets, and capabilities across the spectrum of operations. A strong and robust ACS is key to the success of the EAF concept and supports the Air Force core competency of Rapid Global Mobility. Effective beddown support and sustainment allow deploying forces to downsize the amount of equipment to start up and sustain base operations. This reduced deployment footprint lowers the need for prepositioned assets and airlift requirements.

To meet these needs, the Air Force is revamping its combat support systems in many areas. Time-definite delivery provides users with reliable, predictable delivery of mission-critical parts and reduces inventory investments. Reachback provides ready access to rear or U.S. based organizations for support, reducing the deployment footprint, and saving associated costs. Logistics Command and Control (C2) and other logistics decision support tools leverage information technology, improve base support planning, and enhance tailoring deployment packages for specific locations and scenarios. Global Combat Support System-Air Force (GCSS-AF) is a key enabler of ACS and provides a framework for integrating our critical combat support information systems and processes across functional areas. It will provide the warfighter and supporting elements with timely, accurate, and trusted ACS information to execute the full spectrum of military operations. Leading edge technologies, such as Survey Tool for Employment Planning, will continue to enhance ACS in the future.

Science and Technology

The Air Force is committed to a strong science and technology (S&T) program that will enable a fully integrated aerospace force to meet the challenges of the 21st Century. The Air Force S&T investment strategy has been focused through a series of six integrated technology thrusts–Space Superiority, Information Dominance, Agile Combat Support, Aircraft Sustainment, Training for Warfighting, and Precision Strike–that directly correlate to and will fully enable the Air Force's six core competencies. These six integrated technology thrusts are multidisciplinary and are distributed across the majority of the ten technology areas in which the Air Force invests. The portion of the Air Force S&T budget relating to space will be doubled by FY05 relative to FY99, in recognition of the growing importance of space to all facets of Air Force operations. Topline funding for Air Force S&T has improved over last year's President's Budget request. The additional funding has, for the most part, gone into two areas: Basic Research (Budget Activity 1) and Propulsion. Indeed, one result of the changes has been to make Propulsion (i.e., air- and space-related propulsion technologies) the single largest investment area in Air Force S&T (approximately 16% of the total.) Moreover, special emphasis is being placed on technologies that will make both current and future weapon systems "lighter, leaner, and more lethal," thereby directly supporting the Expeditionary Aerospace Force concept. Also, detailed planning efforts have been completed that identify high payoff investments in directed energy technologies for the full spectrum of operations.

In recognition of the importance of an agile, highly competent workforce to our future success, the Air Force Research Laboratory (AFRL) has instituted major personnel initiatives under the Laboratory Demonstration Program. Additionally, AFRL is now building new collaborative arrangements with universities and industries under the auspices of the S&T Workforce for the 21st Century (STW-21) Study. This government-operated, collaborator-assisted approach will consist of a team of career civil servants, military scientists, and engineers, and collaborators from the top academic and industrial research groups and Federally Funded Research and Development Centers (FFRDCs). The objective is to engage a small number of non-government collaborators with high national repute to augment the AFRL's on-site government technical workforce.

Several new civilian personnel initiatives are also being explored under STW-21 that should enhance AFRL's ability to attract the best and brightest cadre of civilian scientists and engineers. A contingent appointment authority would provide the ability to immediately hire civilian scientists and engineers for up to 5 years (with a 1-year extension). A second initiative allows appointment of up to 50 eminent civilian scientists and engineers for up to 4 years (with an option to extend 2 years) at salaries up to Level 1 of the Executive Schedule. Another initiative we pursued is high-grade relief to allow AFRL to manage grade/salary levels without artificial constraints. FY00 legislation has already provided AFRL with this exemption, and we thank Congress for this relief.

Through a carefully balanced investment portfolio of basic research, applied research, and advanced technology development, the AF S&T program will both protect the future and transition focused technologies to current and planned weapon systems to improve their performance, supportability, and affordability. The end result is the assurance our warfighters will have the tools they need to remain technologically superior in the new millennium.

Acquisition Reform

The criticality of the revolution in business affairs demands our commitment to continuous acquisition reform. We have taken major steps toward commercial off- the-shelf solutions, migration from military specifications to commercial standards, and increased commitment to cooperative development programs. We are institutionalizing acquisition reform initiatives such as Cost As an Independent Variable (CAIV), and Reduction of Total Ownership Cost (R-TOC) to improve affordability. Our R-TOC program establishes a comprehensive, long-term, cradle to grave process for Air Force cost reductions.

We will continue to look for new areas in which we can improve our ability to deliver systems and capabilities faster and smarter. Promising areas include the integration of the requirements and acquisition processes, cycle-time reduction initiatives, contractor incentive programs, evolutionary acquisition guidance, commercial services, streamlining of the modification management process, and further improvements in electronic business/electronic commerce with such initiatives as the Automated Business Services System and Electronic Posting System.

The Air Force FY01 Modernization Program is a balanced approach to securing the required capabilities for Joint Vision 2010 and the Expeditionary Aerospace Force. We are upgrading existing equipment that is still viable and procuring revolutionary new weapon systems where they are needed.

Infrastructure

Combat support provides the foundation that enables global engagement and is a linchpin that ties together Air Force core competencies. It includes those actions taken to create, deploy, employ, generate, sustain, maintain, protect, and redeploy aerospace personnel, assets, and capabilities through all peacetime and wartime military operations. The fundamental mission for infrastructure incorporates the unique contributions and capabilities of aerospace power: speed, flexibility, versatility, and global reach. It is a collection of physical elements, such as squadron operations buildings, and processes, such as the military personnel flight operations. Infrastructure supports operations across the spectrum of conflict in both garrison and expeditionary environments. Some infrastructure areas of concern are mission and base property related. Some areas of advancement are in flight ranges, environment, and space infrastructure.

Mission Related Infrastructure

Getting our forces there safely and ready to fight has become more crucial than ever in the rapid response environment we now live in. Our en route petroleum infrastructure equipment and reserves stand ready to support airlift operations worldwide. However, antiquated fuel systems are a major impediment to air mobility and their timely support to the warfighter. As the airlift fleet modernizes, these old fuel systems will be the number one reason why we cannot meet the theater CINC's delivery schedule of combat troops and equipment. Especially hard-hit is the Pacific theater which suffers from a 50-year-old system that constantly fights corrosion in the humidity of the tropics. We have Defense Logistics Agency

(DLA) Military Construction (MILCON) projects valued at $275M from FY01 through FY05 to both upgrade and increase that support. Other en route infrastructure has experienced a severe funding shortfall over the past decade. An air mobility survey team identified over $1B of en route infrastructure deficiencies. Inadequate infrastructure has a drastic negative effect on cargo throughput supporting geographical CINCs. Worldwide air mobility en route system infrastructure has downsized and is deteriorating. In 1992 we supported 40 locations — today we support just 12. The Air Force needs continued strong congressional funding support for mission related infrastructure, most notably in the European and Pacific theaters. Host-nation funding helps; however, that support can be limited and/or unpredictable. In addition, because today's changing strategic environment will involve the Air Force in numerous contingencies in unpredictable locations, access agreements to strategic locations are becoming more critical. The Air Force is working very hard to ensure continued access to these "gateways" which allow air power to be applied anywhere in the world, anytime, while we have reduced the U.S. footprint abroad. Significantly increased infrastructure investment and access agreements will be key as the Air Force continues to maintain global power projection across the spectrum of conflict.

Military Construction and Real Property Maintenance

In the competition for funds, military construction (MILCON), and real property maintenance (RPM) often lose out to more pressing requirements. In addition, funding available for MILCON and RPM could be better spent if the Air Force base infrastructure were properly sized for the force structure it supports.

In the past decade, reductions in Air Force manpower and force structure have outpaced those in infrastructure. As a result, the Service is spending scarce resources on unneeded facilities, spreading its airmen too thin, and struggling to maintain readiness and its modernization program. The need to fund higher priority programs has caused the Air Force to invest less in base operating support, real property maintenance, family housing, and MILCON than it otherwise would have. For FY01 our MILCON request is approximately one-third of our validated need. To enhance readiness the Air Force must be allowed to reduce its base structure. Consequently, the Air Force fully supports Defense Secretary Cohen's proposal for two additional BRAC rounds.

The FY01 Air Force MILCON budget request is $596 million, which funds the Air Force's highest priority MILCON projects. Congressional support for this budget request is appreciated, especially for overseas infrastructure. Host nation support alone is insufficient to preserve the infrastructure and quality of life initiatives in Europe, the Pacific, and elsewhere. The emergency funding the Congress provided in FY99 for overseas MILCON projects was much needed. If the Congress decides to provide the Air Force additional MILCON funding, consideration should be given to overseas MILCON projects to address readiness and quality of life requirements for our airmen on the front lines.

RPM is funded at a minimum sustainment level intended to accomplish only the day-to-day maintenance required to sustain real property facilities and infrastructure. It does not provide the resources necessary to reduce the backlog of repair and maintenance. As a result, our backlog of repair and minor construction is over $4B and will continue to grow.

Ranges and Environment

Maintaining continued access to Air Force land, ranges, and airspace is vital to sustaining mission readiness. The Air Force recognizes the need to balance its test, training, and readiness requirements with responsible environmental stewardship. Over two-thirds of Federal lands are accessible for various public uses. The Service actively participates in collaborative processes and regulatory partnering initiatives that enhance our military operations, address public interests in compatible uses (such as hunting, grazing, etc.), and safeguard the natural and cultural resources on our test and training ranges. This year we started construction of a new training range in Idaho which will significantly enhance local training for our Air Expeditionary Wing at Mountain Home AFB. The success of this range initiative was the result of extensive cooperation between the Air Force and State and Federal agencies, dialogue with Native Americans, active public involvement, and strong Congressional support. We were able to find common ground which allowed us to not only enhance our operations but also end 10 years of conflict and enter a new era of cooperation.

Additionally, this year Congress renewed the withdrawal of public lands which comprise the Barry M. Goldwater Range in AZ and the Nellis Air Force Range in NV. These two ranges have been used to train America's airmen since World War II and represent over 60% of all Air Force lands. The Service worked closely with the Department of the Interior, State agencies, interested citizens in both states, and the Congressional delegations for over five years. The extension of the withdrawal of the Nellis Range for 20 years and the Goldwater Range for 25 years will assure the Service the stability it needs to address its test and training needs for the future and to implement successful resource management and public interaction programs necessary for long term sustainment of these two vital ranges.

We continue to look at our training airspace and ranges to provide the Service the operational flexibility, efficiency, and realism we need to continuously enhance our readiness and still minimize, to the extent possible, the impacts associated with our testing and training. Currently, we have a proposal to consolidate some of our bomber training infrastructure and rearrange some existing airspace closer to our bomber units in Texas and Louisiana. This proposal will allow our bomber crews to convert the time they currently spend flying to remote ranges into effective and efficient integrated training. We are committed to working with all stakeholders to improve training capability for our bomber crews while addressing citizen concerns to the maximum extent possible. The Service is committed to prudent integrated range and airspace management to sustain operations, sustain the environment, and sustain community support.

Similar to its commitment to protect rangelands, the Service promotes pollution prevention programs to help reduce or eliminate existing and future environmental compliance burden. Where past practices have disturbed the environment, the Air Force is now more focused on pollution prevention, and also continues to implement clean-up programs and make progress towards clean-up completion.

Space Launch Infrastructure

Assured access to space is vital to U.S. national security and important to our economic well being. Mission success will be enhanced through the Air Force's Evolved Expendable Launch Vehicle (EELV) and spacelift range modernization programs.

The introduction of EELV system will provide modernized launch and processing facilities which will improve on-pad processing time from months to days. The Air Force has partnered with industry to develop a national launch capability that satisfies government requirements, reduces the cost of space launch by 25%, and improves operability. This

equates to a $5 to $10B savings through 2020. EELV will reduce on-pad processing time, due in part to the standard configuration of each booster. Launch operations times are reduced through the use of a new standard payload interface, standard launch pads, common components across each family of launch vehicles, and off-pad payload processing (to include encapsulating the payload off-pad.) The reduction in processing time will free up range resources, launch property and services currently occupied by tasks unique to each booster configuration, thereby realizing efficiencies to effectively increase spacelift range capacity.

The Air Force's innovative contract for EELV launch services will develop the launch vehicles and associated launch infrastructure to support commercial launches beginning in FY01 and national defense launches beginning in FY02. This acquisition approach should enable U.S. commercial launch service providers to become more competitive, not only from a cost position, but also from vehicle availability and flexibility standpoints.

The Eastern and Western Spacelift Ranges, headquartered at Patrick AFB, FL and Vandenberg AFB, CA, respectively, provide tracking, telemetry, communications, flight analysis, and other capabilities necessary to conduct DoD, civil, and commercial spacelift operations and DoD ballistic missile test launches. Much of the range infrastructure is outdated, inefficient, unreliable, and costly to operate and maintain. To better support the evolving spacelift mission, the AF has undertaken a phased modernization program, emphasizing standardization and automation of the ranges, to produce a Spacelift Range System (SLRS). Key objectives include reducing reconfiguration times from days to hours and reducing operations and maintenance costs by 20%.

Over the past year, the Air Force has sponsored numerous meetings with industry, NASA, FAA, and other interested federal, state and local agencies to ensure that we understand the needs of the civilian space industry. We will continue to work in partnership with industry and civilian agencies as we modernize our ranges for the future.

Conclusion

America is an aerospace nation. Its aerospace forces are the military instruments of choice for rapid, tailored, and effective response for a wide range of contingencies. Air Force strengths — quality people, Total Force participation, expeditionary capabilities, and advanced technology systems — allow us to offer military options that meet national objectives, save American lives, and conserve resources in crisis or conflict. We are a combat-proven, mission-focused, decisive fighting force for America.

In this millennium, we are faced with new challenges and critical choices. Limited resources and the increased likelihood of encountering non-traditional threats will require us to reassess our program and make minor adjustments as required. However, steady and unchanged are our commitments to combat readiness, our people, and providing this nation those aerospace tools required to meet America's interests around the world. We are organized to win, preparing for the future, and committed to the security needs of the nation.